U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES • Public HealthService • Office of Health Research, Statistics, and Technology National Center for Health Statistics • Series 1, No. 15

nchs

Plan and Operation of the Second National Health and Nutrition Examination Survey 1976-80

Programs and Collection Procedures
Series 1, No. 15

Library of Congress Cataloging in Publication Data

United States. National Center for Health Statistics.

Plan and operation of the second National Health and Nutrition Examination Survey, 1976-1980.

(Vital and health statistics: Series 1, Programs and collection procedures; no. 15) (DHHS publication; no. (PHS) 81-1317)

Prepared by A. McDowell and others.

Includes bibliographical references.

Supt. of Docs. no.: HE 20.6209:1/15

1. Health and Nutrition Examination Survey. I. McDowell, Arthur. II. Title. I II. Series: United States. National Center for Health Statistics. Vital and health statistics: Programs and collection procedures; no. 15. IV. Series: United States. Dept. of Health and Human Services. DHHS publication; no. (PHS) 81-1317. [DNLM: 1. Health Surveys-United States. 2. Nutrition surveys-United States. W2AN148va no. 15]

RA409.U44 no. 15 [RA407.3] 312 '. 0723s 80-607914

ISBN o-8406-01 93-X [312 '. 0723]

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

VITAL AND HEALTH STATISTICS

Plan and Operation of the Second National Health and Nutrition Examination Survey 1976-80

Programs and Collection Procedures
Series 1, No. 15

A description of the National Health and Nutrition Examination Survey of a probability sample of the U.S. population 6 months through 74 years of age.

DHHS Publication No. (PHS) 81-I 317

U.S. Department of Health and Human Services
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Statistics
Hyattsville, Md.
July 1981

Under the legislation establishing the National Health Survey, the Public Health Service is authorized to use, insofar as possible, the services or facilities of other Federal, State, or private agencies. In accordance with specifications established by the National Center for Health Statistics, the U.S. Bureau of the Census participated in the design and selection of the sample and carried out the household interview stage of the data collection and certain parts of the statistical processing.

The Center for Disease Control acted as laboratory consultants and performed a series of biochemical, hematological, and serological assessments on blood specimens of persons participating in the survey.

Library of Congress Catalog Card Number 80-607914

Contents

Appendixes

List of Text Figures

List of Text Tables

Symbols

- - -	Data not available
. . .	Category not applicable
	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500
*	Figure does not meet standards of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

Plan and Operation of the Second National Health and Nutrition Examination Survey, 1976-80

by Arthur McDowell, formerly with Division of Health Examination Statistics, Arnold Engel, M.D., Division of Health Examination Statistics, James T. Massey, Ph.D., Office of Research and Methodology, and Kurt Maurer, Division of Health Examination Statistics

Introduction

The second National Health and Nutrition Examination Survey is another in a series of related programs carried out over the past 20 years by the National Center for Health Statistics. These programs, authorized by Congress under the National Health Survey Act of 1956, are characteristically national in scope, based on probability sampling, and used to collect a broad range of morbidity data and related health information. The essential differentiating characteristic of the health examination surveys is their primary concern with those kinds of health-related data obtained only (or at least optimally) from specially standardized direct medical examinations, including tests and other procedures used in clinical practice. Such examinations given to persons selected in the scientific sample permit estimates of the prevalence of specifically defined diseases in the U.S. population, including cases not previously identified. They also permit estimation of the distribution within the population of a broad variety of health-related measurements, including not only physical measurements such as height, weight, and various skinfolds, but also physiological measurements, such as diastolic blood pressure and serum cholesterol level and psychological measurements.

During the years 1959-76, the National Center for Health Statistics (NCHS) conducted four separate examination surveys. The first of these, the National Health Examination Survey, Cycle I, (NHES I) focused on the prevalence of selected chronic disease in civilian noninstitutionalized U.S. adults aged 18-79.[1] The next two surveys, which were conducted from July 1963 through March 1970, were largely devoted to the growth and development of children 6-11 (the National Health Examination Survey, Cycle II–NHES II)[2] and 12-17 years of age (the National Health Examination Survey, Cycle III–NHES III).[3] The fourth survey introduced a new emphasis. In 1969 the Department of Health, Education, and Welfare established within NCHS a continuing activity to measure the nutritional status of the U.S. population and to monitor changes in status over time. After careful study by an NCHS task force, it was decided to combine the proposed national nutrition surveillance survey with the existing National Health Examination Survey in order to enhance the performance of each component and to permit relating nutritional variables to health measures. The resultant survey is known as the National Health and Nutrition Examination Survey, or NHANES.

The first segment of NHANES (the National Health and Nutrition Examination Survey–NHANES I) was conducted from 1971 through 1974.[4] An assessment of nutritional status was made on a representative sample of the U.S. population aged 1-74 years, and a detailed examination was given to a subsample aged 25-74 years. This segment of the NHANES I program was followed by a 14-month period (1974-75) in which an additional national sample of persons 25-74 years of age was given the detailed examination, to augment the size of the sample originally included in NHANES I (referred to as the National Health and Nutrition Examination Survey, Augmentation Cycle–NHANES IA).[5] Data collected in successive surveys have been published in more than 100 separate publications[6] and have also been made available on computer tapes for further study.[7] The reports serve a broad spectrum of uses:

- They provide estimates of the prevalence of characteristics or conditions.
- Normative or descriptive data permit the monitoring or measurement of changes in health and nutritional status over time through successive assessment surveys.
- Problems of possible public health importance can be identified.
- The interrelationship of health and nutritional variables in the general population is made possible.

Planning process

The continuing responsibility for measuring and monitoring the nutritional health status of the U.S. population meant that the first assessment survey, NHANES I, would be followed by later assessment surveys. These would permit comparisons with the NHANES I baseline data and thereby allow measurements of changes over time. Thus, in a sense, the planning of the nutritional aspects of the second National Health and Nutrition Examination Survey, 1976-80, NHANES II, began with NHANES I. Throughout the course of its operation there was an awareness of this. Constant consideration was given to procedures and content items in terms of whether they should be repeated in the succeeding survey. Then, too, the necessity for comparing NHANES II data with those from NHANES I required that some of the same measurements be made in the same way and on the same age segment of the U.S. population in both surveys. The complex process of planning the NHANES II program began in a systematic way, however, only in mid-1974, about a year and a half before the survey was to begin operation.

The planning phase of a national health examination survey is critically important. The planning process used in the NHANES and predecessor surveys has been described in more detail elsewhere, but part of that statement deserves repeating here:

> One aspect of planning is of prime importance, namely, specifying the survey's specific goals or substantive purposes. . . With respect to each element to be considered for inclusion in a health examination survey–for example, information on diabetes– the following questions should be answered by the appropriate personnel:
>
> (i) How and for what purposes will the information be used? (Outlines of proposed analyses are desirable.)
> (ii) What specific data are needed?
> (iii) How can those data be obtained? (What specific tests, measures, and questionnaire items are needed, and what level of skill is required of examining personnel?)
> (iv) Is the health examination survey the appropriate mechanism to get these data?
> (v) Is the expected prevalence level consonant with the ability of the planned survey to determine it within reasonable confidence limits?
> (vi) Can the entire process of obtaining these data be adequately standardized?
> (vii) What cost factors are involved in equipment, laboratory work, skilled personnel, and so on?
> (viii) Finally, if questions (i)-(vii) all are answered satisfactorily–What is the place of this particular data need in an ordered priority listing with other potential needs?

The appropriate personnel vary with the question asked. For example, for question (i), the head of a health planning agency would qualify, while for (iii) it might be an expert in the medical specialty involved. In the USA the process of determining the conditions to be included in each health examination survey has been a multi-stage effort involving hundreds of institutions, organizations, and individuals. At the beginning a wide net is cast and opinions are sought from hundreds of health planners, health researchers, medical care providers, and health educators as to the kinds of data, appropriate to this type of survey, that are most needed. Important in this stage is the input from Federal Government agencies, particularly the various elements of the Department of Health, Education, and Welfare. Further follow-up contacts are made with respect to some of the suggested items which seem to be reasonable prospects for inclusion, and information is obtained in greater detail so as to answer each of the questions listed in the preceding paragraph.

This leads to further stages of consultation and perhaps to convening *ad hoc* meetings of experts in a particular field to assist in determining feasibility and relative priorities. In the end, decisions must be made at the level of the NCHS, but these must be approved at successive Governmental levels up to the Office of Statistical Policy within the Office of Management and Budget in the Executive Office of the President.[8]

The processes described in the foregoing paragraphs were the general pattern of the planning process carried out in 1974 and 1975 to determine the content and data goals of the NHANES II program. During this same time many related determinations had to be made concerning sample size and design, method of operation in data collection, quality control procedures, field staff retraining, pilot testing and pretesting, and further resultant modifications.

Although it has not been unusual for NCHS to collaborate with other Federal agencies in the planning, data collection, and analysis of previous National Health Examination Surveys, the level of collaboration involved in NHANES II was unprecedented:

- The Bureau of Laboratories, Center for Disease Control, served as a technical consultant for the planning and quality control of NHANES laboratory efforts, in addition to performing most of the health- and nutrition-related biochemistry and providing some of the funding for this effort.
- The National Institute of Arthritis, Metabolism, and Digestive Diseases, National Institutes of Health, supported the serum creatinine testing, the development of a glucose tolerance testing protocol, plasma glucose determinations at the Center for Disease Control, and processing of the data to make it more quickly available for analysis.
- The National Heart, Lung, and Blood Institute, National Institutes of Health, developed plans for assessing cholesterol, triglyceride, and high density lipoprotein (HDL) levels through the Lipid Research Clinic Laboratory at George Washington University, the results processed at the Coronary Patient Registry at the University of North Carolina.
- The Office of Pesticides and Toxic Substances, Environmental Protection Agency, served as a technical consultant in collecting blood and urine specimens suitable for processing for residues and metabolites of certain pesticides. It processed the samples, monitored the quality of the processing, and coded the data in machine-readable form.
- The Bureau of Foods, Food and Drug Administration, supported the development of a serum ferritin assessment as part of the characterization of anemia. It also supported the measurement of blood lead levels at the Center for Disease Control.
- The Department of Energy supported Dr. Edward Radford at the University of Pittsburgh in his assessment of carboxyhemoglobin levels in blood. Randomly selected blind samples both from Dr. Radford's laboratory and from NCHS mobile examination centers were analyzed by accepted gas chromatographic procedures at the Naval Medical Research Institute, insuring quality control and providing a reference standard.
- The Bureau of State Services, Center for Disease Control, made arrangements in each sample area for supplies and testing for gonorrhea.

The remaining sections of this report present the outcome of the planning with respect to the objectives of NHANES II. They describe in more detail some of the reasons for the selections and go into details of the sample design and operational plan.

The appendixes of this report contain listings of the examination components; blood and urine assessments; pesticide residue and metabolite determinations; staff participation in the planning, development, and operation of NHANES II; and data collection forms.

Summary statement of data collection techniques

The plan developed with respect to the content of NHANES II called for the following items.

Questionnaires

Household questionnaire. –For each household member, this questionnaire included the family relationships; certain demographic items such as age, sex, and race; selected housing information; items such as occupation, income, veteran status; and an indication of participation in food stamp programs.

Medical history questionnaires. –For each sample person at ages 6 months to 11 years a questionnaire included items on birth weight, prematurity, developmental congenital conditions, medication, neurological conditions, lead poisoning, accidents, hospital care, disability, diarrhea, pica, vision, and a variety of chronic conditions. In addition, there were major sections on allergies, kidney and bladder disease, anemia, speech and hearing, lung and chest conditions, and participation in food programs.

Two questionnaires for each sample person at ages 12-74 years included items on medication; hospital care and tuberculosis; nutrition; a variety of acute and chronic diseases; tobacco, tea, and coffee usage; physical activity; weight; height; vision disability; exposure to pesticides; gastrointestinal problems; and for females, a menstrual and pregnancy history. In addition, there were major sections on anemia, diabetes, respiratory condition, hearing and speech, liver and gallbladder conditions, kidney and bladder disease, allergies, hypertension, cardiovascular conditions, stroke, arthritis (stressing middle and upper back and neck problems), and participation in food programs.

Two dietary questionnaires. –For each sample person, a dietitian recorded the quantity of every item of food or drink consumed during the previous day, so that after computer calculation, the data yielded measures of calories, cholesterol, fat, unsaturated fats, protein, carbohydrates, and specific vitamins and minerals consumed during the recall period.

A food frequency interview ascertained the usual pattern of food consumption, recording whether or not it included any foods in various groupings, including milk, meat, fish, eggs, fats and oils, legumes and nuts, cereals, fruits, vegetables, and alcoholic beverages. It also showed reported daily and/or weekly number of times each food was consumed and noted the use of salt and vitamin and mineral supplements.

Medications and vitamin usage.–This elicited a history of the preceding week's usage of any medicines, vitamins, or minerals, for all examined persons.

Dietary supplement interview form. –This form recorded the history of special diets, prior medications, and barriers to purchasing groceries or eating foods for examined persons aged 12-74 years.

Behavior questionnaire.–This questionnaire elicited data on behavior possibly associated with coronary heart disease for examined persons 25-74 years of age.

Examination by physician

A physician performed and recorded a medical ex amination giving special at ten tion to specified findings related to nutrition; hearing; the thyroid gland; and the cardiovascular, respiratory, neurological, and musculoskeletal systems.

Special clinical procedures and tests

A specially trained health technician carried out the following tests and procedures on examined persons in the designated age ranges.

Spirometry trials.–These were digitized and recorded on magnetic tape for examined persons 6-24 years of age for various pulmonary function indicators such as forced vital capacity (FVC), forced expiratory volume in 1 second (FEV_1), and peak flow rate.

Electrocardiograms.—Digitized and recorded on magnetic tape for examined persons 25-74 years of age, electrocardiograms provided normative data on amplitudes and durations and permitted diagnostic interpretations of heart disease according to the Minnesota code.

Body measurements.—The measurements made on examinees included standing height, body weight, triceps and subscapular skinfolds, and several others.

Puretone audiometry.—This test carried out on examined persons between the ages of 4 and 19 permitted determination of threshold levels of hearing for frequencies of 500, 1000, 2000, and 4000 Hertz for right and left ears.

Speech recording.—This involved the use of a tape recording of the subject's repetition of specially developed sentences. It was carried out on examined persons between the ages of 4 and 6, permitting interpretations as an indication of problems with articulation and language development.

Allergy tests.—These involved skin tests (the prick test) with eight common allergens (housedust, alternaria, cat fur, dog fur, ragweed, oak, rye grass, and Bermuda grass). The tests were made on examined persons between the ages of 6 and 74 to obtain degrees of skin reaction.

X-rays

For examined persons 25-74 years of age two X-rays were made. No X-rays were done on pregnant women, and no lumbar X-rays were done on women under 50 years of age.

X-ray of cervical and lumbar spine.—This provided evidence of osteoarthritis and degenerative disc disease.

X-ray of chest.—The chest X-ray was used in the diagnosis of respiratory diseases and served as a measure of left ventricular enlargement.

Urine tests

Tests as follows were performed on casual samples of urine.

N-Multistix tests.—These urinary dipstick tests for qualitative protein, glucose, ketones, bilirubin, blood, urobilinogen, pH, and bacteriuria (nitrite test) were done for examined persons 6-74 years of age.

Urinary sediments.—Sediments including red cells, white cells, and casts were measured for a subsample of examined adults 20-74 years of age.

Gonorrhea cultures.—Cultures of urinary sediments were performed for male and female examined persons 12-40 years of age. However, of those females who received the glucose tolerance test (GTT), only those 20-24 years of age had the gonorrhea test performed.

Analyses for pesticide levels.—Urine samples from a subsample of examined persons 12-74 years of age were tested for the presence of alkyl phosphate residues and metabolites, carbamate residues, phenolic compound residues and malathion metabolites. Appendix III has a complete listing of the pesticide residues and metabolites tested for.

Tests on blood samples

Samples of blood provided a broad range of information related to health and nutrition. The particular tests performed varied with the specific target condition and age group (appendix II). The discussion of the development of the plan for NHANES II later in this report specifies the age groups and, in some instances, the subsampling pattern followed for each of the following tests.

Glucose tolerance test.—This test involved the collection of blood specimens from examined persons while they were in a fasting state as well as at 1 and 2 hours after glucose challenge. The test was performed on a specified subsample of examined adults to provide estimates of the prevalence of diabetes.

Tests related to liver function.—The postprandial liver bile acid test measured the ability of the liver to remove bile acids from the blood following consumption of a food preparation that induced the eventual addition of bile acids to the blood via contraction of the gallbladder.

Biochemical liver tests performed included bilirubin, SGOT, and alkaline phosphatase.

Anemia-related laboratory tests.—The tests made to diagnose anemia consisted of protoporphyrin, iron, total iron binding capacity (TIBC), zinc, copper, red cell folates, serum folates, serum ferritin, vitamin B_{12}, and the determination of abnormal hemoglobin.

Other biochemical nutritional tests.—These tests included albumin, vitamin A, and vitamin C.

Serum lipids.—Because of their important relevance to cardiovascular disease, determinations were made of cholesterol, triglycerides, and high density lipoprotein (HDL).

Biochemical tests for body burden from environmental exposures.—Determinations were made of the levels of lead and organochlorine pesticide residues and metabolites. Tests were also performed for carboxyhemoglobin, which reflects environmental exposure to carbon monoxide and the individual's smoking habits.

Hematology.—The hematology included determinations of hemoglobin, hematocrit, red blood cell count, white blood cell count and differential analysis, and red blood cell morphology.

Kidney function.—The only test for kidney function performed on blood samples was the serum creatinine test.

Syphilis.—The serology determinations for syphilis included qualitative and quantitative ART, an FTA-ABS, and MHA-TP.

The foregoing list summarizes the content finally decided upon for inclusion in NHANES II. However, the planning process almost always involves a great deal of effort in connection with proposals that, for a variety of reasons, are not included in the final plan. A few of the important components considered in the process of planning but deleted from the final NHANES II plan deserve to be noted. Two of the proposals that were seriously considered had to be deleted because of staff limitations or examination time. One of these would have involved administering a tuberculin skin test at the examination site with subsequent reading at the household; the other would have involved administration of a psychological schedule used in NHANES I, the General Well-Being Test. A third proposal involved completion of a questionnaire at the school attended by children and youth who were sample persons. In that case, considerations related to confidentiality and privacy, and the related clearance process required more time than was available for their resolution. Finally, in the early stages of planning, consideration was given to including an extensive neurological component based on computer analysis of tape recorded electroencephalograms. The main purpose would have been the provision of normative data on the distributions of the electroencephalogram variables in the general population and of some data on the prevalence of brain damage and related brain pathology. It was finally decided to drop this from NHANES II, with the possibility of considering it in a later program. A major factor in this decision was the recommendation by the National Institutes of Health advisory committee that reviewed the plan. While approving the general concept of such data collection and analysis, this group believed that the methodology available at the time was not appropriate for use in NHANES II. Certain other components considered in planning but finally omitted from NHANES II are noted later in the detailed description in this report.

Nutritional status assessments

The basic purpose of the NHANES II program with respect to nutritional status assessment required that the program continue to use, with some modification, the same or essentially the same format of NHANES I. In order to monitor the nutritional status of the population, the data to be collected needed to be not only comparable, at least in considerable part, but also carried out as in NHANES I on a probability sample of the civilian noninstitutionalized population of the United States. Again as in NHANES I, emphasis needed to be placed on the segments of the population classified as at or below the poverty level, the young children and the aged, since these were assumed to be at special risk of having nutritional problems. These groups then would again be sampled at rates substantially higher than their proportions in the general population.

It is necessary, in order to assess nutritional status, to obtain data of four different types. The fourfold approach used in NHANES I and NHANES II involved the collection of information on dietary intake patterns along with the results of various hematological and biochemical tests, anthropometric measurements, and clinical assessments.

The experience gained in the NHANES I program, however, made possible certain modifications of NHANES II in order to make the data obtained more useful while continuing to provide a considerable amount of comparable data for monitoring purposes. The NHANES I information indicated that vitamin A deficiencies were not a problem in the older age groups in our U.S. population, and as a result, collection of information on the biochemical findings of vitamin A was limited in NHANES II to the 3-11 years age group. (It was not recognized at the time that vitamin A levels in adults would be of considerable interest in cancer research.) Technical problems in the collection of blood samples and their analysis for vitamin C during the NHANES I program had resulted in unsatisfactory data. These problems were solved, and vitamin C determinations were again made in NHANES II. The methods used in NHANES I for determining the iodine, thiamine, and riboflavin values in urine were found to be inadequate, however. Therefore, the decision was made to exclude those determinations from NHANES II. Some consideration was given to using the more sensitive enzyme analysis method to detect any riboflavin or thiamine deficiencies. Some of the investigations at the Center for Disease Control involved the spectrophotometric erythrocyte transketolase method as well as a spectrophotometric method for erythrocyte gluthathione reductase. This work identified a number of compromises in basic enzyme assay principles and certain questions in the color development procedure that would require a considerable amount of additional time to evaluate fully. It was, therefore, decided not to include these in the NHANES II program. On the other hand, the serum albumin test used in NHANES I was continued in NHANES II as a monitor of protein deficiency in the U.S. population. The relationship of the serum albumin test to clinical health status was also an important factor in its retention, since as a whole there is little evidence of a gross pattern of protein deficiency in the U.S. population.

An important addition in NHANES II to the biochemical data obtained in NHANES I related to the investigation of the trace elements zinc and copper in blood. It was known in 1974 that there are more than 70 enzymes that need zinc for their proper function. Important factors in decreasing the absorption of dietary zinc are the fiber and phosphates in predominantly cereal-based diets. The consumption of alcohol increases urinary excretion. A number of diseases such as steatorrhea, regional enteritis, liver cirrhosis, hemolytic anemia, psoriasis, thalassanemia, and sickle cell disease may lead to zinc deficiency. Pregnancy may also predispose to zinc deficiency. Zinc is involved in the production of insulin, and zinc deficiency may impair wound healing. Copper deficiency is important for a number of reasons. The first

sign of copper deficiency in humans is usually neutropenia. In advanced copper deficiency, iron is not absorbed. A copper-containing enzyme (ceruloplasmin) is necessary for the human body to use iron. Copper is essential in hematopoiesis and plays a key role in connective tissue metabolism.

Since in trace element surveys many factors can grossly interfere with the integrity of the specimens, a number of precautions were taken. A thorough investigation was made of various aspects of the collection, storage, stability, and possibilities of contamination of specimens. Special blood-drawing equipment and specimen storage containers were employed. A laminar flow table was used to prevent airborn contamination during specimen processing at the laboratory in the examination center.

As in the NHANES I program, the two principal means of obtaining data on dietary intake were the 24-hour recall and the food frequency questionnaire. In order to facilitate comparison of the various types of information, the schedules used were modified somewhat in NHANES II so that both of them used identical food groupings. This was done in a way that still permits the comparison of NHANES II with NHANES I data.

Considerably increased amounts of information on vitamin and mineral supplements were obtained in NHANES II as compared with NHANES I. In NHANES II, information was obtained on participation in such food programs as food stamps, commodities, school lunches, home-delivery meals, and the like. This information will permit comparisons between the measures of nutritional status of individuals participating in these programs and individuals of similar socioeconomic status who are not participating.

The body measurements obtained in NHANES II, the third part of the fourfold approach to assessing nutritional status, were the same as those used in NHANES I. They were as follows: standing height, sitting height, weight, bitrochanteric breadth, elbow breadth, upper arm girth, head circumference, triceps skinfold, and subscapular skinfold. The only change made was to obtain measures in 3-year-olds of both standing height and recumbent length, along with sitting height and a crown-rump measurement.

The fourth approach to assessing nutritional status, a physician's examination, was also largely unchanged from the examination given in NHANES I. The examining physician's clinical diagnostic impression was based on the physical examination and medical history along with the examining physician's own reading of the electrocardiogram and X-ray and the results of some laboratory determinations immediately available at examination time (hematocrit, hemoglobin, white blood cell, red blood cell, red-blood-cell-urinary test tape, and microscopic urinalysis). The examining physician's reading of the electrocardiogram and X-ray were not, of course, equivalent to the readings that were obtained later from medical specialists. The examining physician's clinical diagnostic impression of many conditions was, in fact, based on much less than a complete workup. For many other conditions, however, the examining physician's clinical diagnostic impression may have had a reasonable degree of accuracy. For their diagnostic impressions, the physicians entered the four-digit coding of the *Eighth Revision International Classification of Diseases, Adapted for Use in the United States*[9] rather than the three-digit code used in NHANES I.

The most important change in the approach to nutritional assessment adopted for the NHANES II program was in relation to anemia. Since this condition had been revealed by NHANES I to be a significant health problem in the U.S. population, anemia was investigated in more detail in NHANES II. The approach used to characterize anemia was one that had been recommended by Dr. William Darby, President of the Nutritional Foundation, Inc., Center for Disease Control personnel, and others. It involved symptoms, signs, and causes of anemia gathered in medical history questionnaires and physicians' examinations; and it involved laboratory assessments in blood as follows:

- A complete blood count: hematocrit, hemoglobin, white blood cell, red blood cell, cell differential, red cell morphology, and the determination of hemoglobinopathies.
- Iron, iron-binding capacity, serum ferritin, and red cell protoporphyrin to designate iron status.
- Serum folates, red cell folates, vitamin B_{12}, zinc, copper, lead, and other indicators of anemia.

The folate, ferritin, and vitamin B_{12} determinations were done on anemic individuals and on a subsample of the entire group. This approach used to characterize anemia should make a better determination of the prevalence of anemia in the U.S. population possible than could be done from the NHANES I data and will enable the relationships among the various iron-related measures to be characterized. Such a determination is important for various public policy actions such as recommendations for enrichment of food products with iron.

Detailed health examination

Major new target conditions

The NHANES programs have been referred to as dual-purpose surveys, the purposes involving the assessment of both nutritional and health status. It might be more precise to refer to them as surveys to measure health status with special emphasis on one of the major determinants of health—nutrition. Be that as it may, information about a number of health conditions regarded as target conditions was collected in NHANES I, and many of these same target conditions were included in NHANES II. The new target conditions included in NHANES II were diabetes, kidney pathology, liver function, and allergy.

Diabetes.—Diabetes has long been recognized as an extremely serious disease affecting a significant proportion of the U.S. population. Despite this fact, there has been wide variation in the estimated prevalence of diabetes in the population. A problem arises as a result of the presence of unrecognized or undiagnosed cases of diabetes that need to be added to the recognized or diagnosed to obtain the total prevalence. A health examination survey is an ideal mechanism to obtain prevalence estimates that include both diagnosed and undiagnosed cases. The prevalence of known cases of diabetes has been monitored by another NCHS survey, the National Health Interview Survey, and unpublished data from that program appears to indicate an increase in the prevalence of diabetes. The apparent increase, however, may be due to the wider use of diabetes-detecting clinical tests in the U.S. population and not to a true increase in the prevalence of the disease. The first National Health Examination Survey (1960-62) provided some information on the prevalence of diabetes, based on a 1-hour glucose tolerance test, [10-13] buta closer approximation to a standard glucose tolerance test than was then used[14] would have been essential to provide an adequate estimate of the total prevalence of diabetes mellitus. Increased attention to diabetes was mandated by the National Diabetes Mellitus Research and Education Act, enacted by Congress on July 23, 1974 (Public Law 93-354). Its purpose was to

(1) expand the authority of the National Institutes of Health to advance the national attack on diabetes mellitus; and

(2) as part of that attack, to establish a long-range plan to

(A) expand and coordinate the national research effort against diabetes mellitus;

(B) advance activities of patient education, professional education, and public education which will alert the citizens of the United States to the early indications of diabetes mellitus; and

(C) to emphasize the significance of early detection, proper control and complications which may evolve from the disease.

In planning NHANES II, NCHS worked closely with the National Commission on Diabetes (established under Public Law 93-354) and with the National Institute of Arthritis, Metabolism, and Digestive Diseases of the National Institutes of Health. Dr. G. Donald Whedon, Director of this Institute, specially requested that a diabetes component be included in NHANES II in order to determine both the prevalence of diabetes mellitus in the U.S. population and the ratio of previously diagnosed to undiagnosed cases. In addition, the distribution of diabetes within the population according to various demographic characteristics was of interest. In addition to the assistance obtained from the National Institutes of Health directly, a number of consultants on the diabetes component were used in planning the NHANES II program. The principal ones were Drs. Peter Bennett, John O'Sullivan, Kelly West, and Harvey Knolls.

A number of questions arose during the detailed

planning of the diabetes component. One of these was whether or not to require the consumption of a specific number of grams of carbohydrates during the 3 days before the examination. The major drawback of such a procedure for NHANES was the elimination of the 24-hour recall diet history from the nutritional dietary survey for individuals undergoing the glucose tolerance test, since the diet preparation would have seriously altered the previous day's food intake. Consideration was given to interviewing persons to receive the glucose tolerance test at home at a time other than the 3 days before the examination, but limitations of budget and personnel precluded this solution. The question of diet preparation was brought up at a session of the work group on epidemiology of the Committee on Scope and Impact, a subcommittee of the National Commission on Diabetes. The work group did not reach general agreement.

The group's final decision was that the consumption of a specific amount of carbohydrates prior to the test would not be required. But data from the 24-hour recall and the presence of ketones found in the urine sample would serve as an indication of whether or not there had been an inadequate consumption of carbohydrates prior to the test. Some consideration was also given to the collection of data reflecting levels of circulating insulin and glucagon. After due consideration, it was decided to omit determinations of insulin and glucagon, largely because of the lack of adequate resources.

The test finally decided upon for the diabetes component was as follows: a one-half sample of persons 20-74 years of age was scheduled for examination in the mornings. (Analysis of Cycle I glucose tolerance data indicated that sample variances for this reduced sample would be low enough to permit data analysis.) Three blood glucose specimens were collected, a fasting one and specimens collected at 1- and 2-hour intervals after the glucose "challenge" had been drunk. Data could then be tabulated for each blood specimen, and some combination of the three values could be used to decide whether or not sample persons had diabetes. Previous studies had indicated that a 3-hour value did not contribute significantly to the diagnosis of diabetes and that attempting to obtain it would only increase nonresponse and unduly lengthen the examination time. A 75-gram glucose challenge was selected. Available information suggested that data derived from larger loading doses were generally interchangeable with the 75-gram dose. The tests were done only in the morning because glucose tolerance decreases later in the day. In general, health conditions, such as pregnancy, that were known to alter carbohydrate metabolism were not grounds for exclusion from testing. The test was also given to those individuals who had been told by their physicians that they were diabetic and whose condition had been controlled by diet or by oral hypoglycemic medication. The test was not given to insulin-dependent diabetics.

The examinees were instructed not to eat anything after 11:00 p.m. on the evening before the test. On the morning of the examination, after a fasting venal blood specimen had been drawn and a urine specimen had been analyzed for glucose, the examinee was given 7 ounces of caffeine-free cola (Glucola) to drink, which contained an equivalent of 75 grams of glucose. Two more specimens of blood were drawn at 1- and 2-hour intervals. The blood was processed in the examination center laboratory, and the frozen plasma was shipped to the Center for Disease Control in Atlanta, Ga. There the plasma was analyzed by the hexokinase Glucose 6-Phosphate Dehydrogenase Procedure, using an automated modification of the National Glucose Reference Method developed at the Center for Disease Control.

Kidney pathology.—A second major new target condition selected for inclusion in the NHANES II program was kidney pathology. Very little data directly bearing on this had been collected in previous NHANES or NHES programs, and numerous requests to have a kidney component in the examination survey programs had been received over the years from the National Institutes of Health, the National Kidney Foundation, and several nephrologists in the NHANES professional inquiry groups.

Malfunction of the kidneys is an important health condition, made more so by the very expensive and complex nature of the therapy that is provided by the artificial kidney. In planning this component, numerous people, including Dr. George Schreiner, Georgetown University Hospital, Dr. Nancy Cummings, National Institutes of Health, and Dr. James C. Hunt, Mayo Clinic, were consulted. A number of tests and procedures were considered in addition to an expanded medical history questionnaire, including a variety of questions related to urinary problems. Various modalities were investigated, some of which had to be rejected because of difficulties in the field situation. For example, because it was desirable to obtain a measure of bacteriuria, an indication of possible urinary infection, modifications of quantitative culture techniques and direct examination of urine for bacteria by gram stain were considered. However, to avoid the likelihood of false positive results, it is desirable to obtain at least three separate specimens in any procedure involving a bacterial culture. Previous examination survey experience had made apparent the difficult logistical problems encountered in requiring repeated visits. Given the constraints, it was finally decided to rely upon the simple nitrite test using a dipstick to test for bacteriuria. The test is highly specific but not highly sensitive.

The creatinine clearance test, a widely used test

of kidney function that involves the collection of timed urine specimens and a blood specimen, was also carefully considered. The original plans were to include a 2-hour creatinine clearance test with a water load of approximately 400 cubic centimeters at the start of the test. However, one of the major sources of error involved in 2-hour collection is inadequate emptying of the bladder. Since the amount of urine collected in this instance would be relatively small, any retained urine could cause considerable error in test results. Methods for measuring retention of urine, such as use of isotopes, were not regarded as feasible in the field survey. Pilot testing of the timed urine collection strongly suggested that a significant number of individuals did not empty their bladders adequately. As a result of all these things, it was decided not to use the 2-hour creatinine clearance test but to rely only on a serum creatinine test, a widely used but less sensitive indicator. Support for the laboratory work for this biochemical determination was provided by the National Institute of Arthritis, Metabolism, and Digestive Diseases.

Microscopic examination of urinary sediments was another of the procedures considered for inclusion in the survey. While consideration was given to an exact quantitative test of urinary sediments using an aliquot of a timed urine specimen—a highly accurate procedure according to some reports—it was decided after the recommendation of consultants to use a method more closely approximating that used in clinical laboratories. The procedure finally adopted was the one used for urinalysis in the Mayo Clinic. It consisted of centrifuging the urine specimen, decanting the supernatent fluid, and examining the sediment for the presence of red and white blood cells and cell casts. Ten microscopic fields were examined for each specimen, using 10-power and 40-power magnification. However, if the voided urine was dilute, the counts on urinary sediments would be much lower than if the urine sample had been highly concentrated. For this reason it was decided to do the microscopic analysis only on the adult subsample of persons 20-74 years of age who were also to receive the diabetes test. This group would have had a sufficient number of hours of fluid deprivation immediately preceding the test, during the time spent sleeping, to produce sufficiently concentrated urine (specific gravity of 1.015 or greater) for the test. This particular procedure was also used in a study of kidney disease in the Scandinavian population.[15] One finding from that study was an average of almost 60-percent lower frequency of pyuria in both men and women when midstream specimens were used. Therefore, a midstream collection procedure was used for women and a 2-glass procedure for men, with the sediment analysis carried out on the second specimen.

Dipstick tests for bilirubin, nitrite, urobilinogen, blood glucose, and ketones were also included in the NHANES II program. Optical density, as read on a refractometer, was also determined to assist in interpreting the data, since it gives some indication of the concentration of urine. In addition, an osmolarity determination, another index of the concentration of urine, was made at the central laboratory where pesticide determinations in urine were made.

Liver disease.—There is a lack of reliable epidemiological data on the prevalence of liver disease in the general population. Some information on the prevalance of hepatitis comes as a result of serological tests; and considerable evidence based on mortality data, including autopsy records, indicates that liver disease is fairly widespread. Experts, including Dr. Paul Beck, of the National Institutes of Health, and Dr. Norman Javitt, of Cornell Medical Center, were consulted. The problem was to decide on appropriate tests to use in a sample survey. Unfortunately, the most commonly used test to detect liver disease (the BSP test), one both sensitive and specific, involves the intravenous injection of a material that may not be entirely safe. For this reason it was out of the question that it be used in the NHANES II program. Other tests that were considered, including various enzyme tests such as the SGOT, SGPT, alkaline phosphatase, and so on, are not as sensitive as the BSP test; nor are they specific, since results can be elevated when conditions other than liver disease are present. In this situation, Dr. Javitt suggested that a test for elevated serum postprandial bile acids be used. Bile acids are removed by the liver from blood returning to the heart via the portal vein. The liver cells rapidly secrete the recirculated bile salts into cuniculi where they pass down the ductal system to enter the gallbladder. Under the influence of gastrointestinal hormones, the bile is discharged into the intestine. The bile acids are then absorbed by the intestine and later enter the portal vein to start the cycle again. Because a diseased liver will not remove bile acids as efficiently as a healthy liver, and bile acids will accumulate in the blood stream, a measurement of bile acids in the serum is relevant. A meal containing fat causes a contraction of the gallbladder and in effect results in a greater elevation of bile acids than that occurring under fasting conditions. For the NHANES II survey it was decided that sufficient fat to elevate bile acids could be obtained by the sample person's drinking an eggnog preparation. Peanut butter cups were substituted for eggnog for the occasional person who was allergic to eggs and egg products. Blood was collected 2 hours after administering the eggnog preparation or the substitute, and the test was given only to adults 35 years of age and over, since the cost of laboratory work was relatively high. The results of the test were to be combined with information from special medical history questions related to liver disease. Since data on alcohol

consumption were also collected in NHANES II, there is the possibility of relating such data to the findings with respect to liver disease.

Allergy.—The need for better data on the epidemiology of allergic conditions in the U.S. population has long been known and was specifically pointed out to the National Center for Health Statistics by Dr. Sheldon C. Siegal, who at the time was president of the American Academy of Allergy. Dr. Siegal strongly recommended that an allergy component be included in the examination survey program. Data from other NCHS surveys and from other sources showed that the clinical manifestations of allergy were responsible for a large number of ambulatory care visits and widespread use of prescription and nonprescription drugs. Seasonality would be a problem in measuring the clinical manifestations of allergies in a survey with the NHANES design because of the scheduling of the examination sites. However, reactions to skin tests are closely related to the presence of various respiratory conditions, including asthma and allergic rhinitis. [16] Further consultation on the possibility of including such a component was held with Dr. Phillip S. Norman, who succeeded Dr. Siegal as president of the Academy. It was recommended that data be collected, including an allergy history and the results of a skin test. At Dr. Siegal's request, Drs. John Farghan, Charles Read, and Albert Schaeffer drew up a specific format and content for the allergy examination.

The recommendation of the consultants was that the prick test be used, which, along with the scratch test, is considered to be among the safest procedures used for skin testing. The test involves pricking the skin through a drop of antigen placed on the skin. Their recommendation was adopted, as was the recommendation to use eight separate aeroallergen extracts: housedust, alternaria, cat fur, dog fur, mixed long and short ragweed, oak, perennial rye grass, and Bermuda grass. In addition to the eight allergens, two controls, one containing the diluent used for the antigens and another consisting of a histamine phosphate solution, were used.

The allergy skin test was administered to examinees 6-74 years of age. The back, frequently considered the most uniform site for skin tests, was deemed impractical to use for testing because of lack of facilities for keeping examinees in a prone position for the required time. Therefore, the nonvascular area of the forearm was used. Special precautions were taken for individuals with a history of allergy to ragweed and even more particularly to cats or dogs, as revealed from the allergy history questions. After the administration of the allergens, readings were taken both at 10- and 20-minute (the more commonly used standard measurement) periods. Both the length and width of the wheal and its flare were measured, and standard clinical recordings were made of the allergic reaction. The consultants had originally recommended that lyophilized extracts of the allergen be used, but they were not commercially available, and standard scratch test antigens preserved in glycerin were used instead.

Other important target conditions

Osteoarthritis and disc degeneration.—Osteoarthritis is one of the most common diseases in older Americans. The disease is an important cause of disability, causing limitation of activity and mobility. Osteoarthritis has two basic causes. A gene that is very common in the population produces a syndrome of hereditary osteoarthritis associated with Heberden's Nodes. In this condition, severe disc degeneration and degeneration of the apophysial joint of the cervical spine are commonly seen. The second type of osteoarthritis is due to mechanical wear and tear. There is little doubt that individuals who are exposed to high degrees of trauma develop severe disc degeneration of the cervical and lumbar spines. In addition to chronic pain, many syndromes may be noted. For example, severe involvement of the cervical spine may produce vertebral artery insufficiency and can cause severe dysphagia. Although findings from physical examination often lead to an inaccurate assessment of osteoarthritis, radiological methods are available for accurately assessing the severity of lesions. These methods were used in NHANES II. X-ray films taken in the survey include lateral views of the lumbar and the cervical spine. To avoid any possible X-ray damage to a fetus, lumbar spine X-rays of females were taken only at ages 50 and over. As in previous cycles of the National Health Examination Surveys, certain aspects of the physical examination and medical history were included in the survey to give a picture of the functioning of the joints and the disabilities associated with joint pathology.

Consultation on this aspect of the survey was mostly with Dr. William O'Brien of the University of Virginia and Dr. Peter Bennett, National Institute of Arthritis, Metabolism, and Digestive Diseases. The proposal was also reviewed by the Subcommittee of Epidemiology of the National Arthritis Commission.

Cardiovascular conditions.—One part of the planned NHANES II cardiovascular component was an investigation of cardiac arrhythmia by means of Holter electrocardiogram recordings. Because cardiac arrhythmias are believed to be responsible for most sudden cardiac deaths, this study appeared to provide the opportunity for uncovering epidemiological data of major importance. In clinical practice, the Holter electrocardiogram recorders are attached to the patient, and recordings are made during a 10- or 24-hour period while the patient goes about usual daily activities. To reduce the number of recorders and to lessen the operational complexities in NHANES II, the recordings were to be made over only a 2-hour period, while the examinee was engaged in other

parts of the examination. A tryout of the procedure during the pilot test demonstrated that recordings of a good quality could be obtained. However, an expert committee assembled by NCHS and the National Heart, Lung, and Blood Institute to give advice on the proper processing of the tapes was of the opinion that certain parts of the examination, such as the glucose tolerance test, would affect the production of arrhythmias. Unfortunately, the committee recommendations would have necessitated a redesign of the examination that would have added more time to the length of the examination than was judged feasible. When this determination had been reached, there was not enough time left in the planning process to explore alternative proposals, and so the Holter electrocardiogram recordings had to be eliminated from the final NHANES II plan.

To record the electrocardiogram, equipment that would record three channels of data simultaneously (12-standard lead and 3-Frank lead), with immediate conversion from analog to digital format, was used. The electrocardiogram was taken with the examinee resting in a supine position. It should be noted that the computer program available for three-channel processing was much more accurate than those previously available for one-channel processing. To obtain continuing information on hypertension and the status of related medical control efforts in the United States, blood pressures were taken and appropriate medical history questions were included in NHANES II, as they had been in the previous cycle of examinations (NHANES I). As is mentioned above, determinations were made of cholesterol, triglycerides, and high density lipoproteins (HDL).

Spirometry.—To provide normative data on pulmonary function similar to that obtained in NHANES I for persons 25-74 years of age, spirometry was performed in NHANES II on individuals 6-24 years of age. As in NHANES I, the data were recorded on tape, using the same equipment as that used for the electrocardiogram recordings. A computer program was used for processing the data and converting it into the individual parameters that describe pulmonary function. The data can be analyzed in relation to the allergy component and the respiratory data obtained from the medical history and examination.

Speech pathology and hearing.—The originally planned speech and hearing component of the survey was markedly shortened as a result of consultation and pilot testing. Impedance audiometry had been an important component of the original plan. This procedure was designed to give a measure of the prevalence of middle ear pathology in the United States. During the pilot test, however, difficulties were encountered in getting an adequate airseal; several examinees experienced discomfort; and the test took longer than expected. A decision to discontinue the procedure was made after the pilot test, since although additional months of experience with the procedure might have reduced the problems encountered, the entire survey schedule would still have been disrupted. Although impedance audiometry was dropped from the survey, puretone audiometry was included for all sample persons 4-19 years of age. It had originally been planned to obtain a speech sample from individuals 4-74 years of age for speech pathology testing, but the instrument finally selected for the speech test was the Stephens Oral Language Test,[17] a test using standardized stimulus sentences that had been used to screen children of from 4 through 6 years of age for deficiencies in syntax and articulation. Although the test had been used extensively in the 4-6 age group, there was only a very limited experience of its use in older age groups. In NHANES II only those 4-6 years of age were tested, since the test had received adequate validation only in that group. Because of substantial oversampling of this age group for the nutrition survey, there were enough children for the resulting data to be useful.

Since trained speech pathologists were not available for the survey team, speech recordings of the 15 sentences used in the test were made at the examination site. These recordings could be evaluated subsequently by a speech pathologist. Considerable effort was expended in designing a recording setup that would produce excellent high-fidelity recordings. In order to provide a standard stimulus for eliciting the speech sample, Dr. Irene Stephens, Associate Professor, Department of Communicative Disorders, Northern Illinois University, recorded a reading of the speech test on separate Language Master cards. Subsequent evaluation by Dr. Stephens of about 400 recordings taped by the survey demonstrated the feasibility of this approach.

Blood tests: carbon monoxide, lead and pesticide levels, and venereal disease.—The increasing involvement of NHANES in studying environmental health factors has reflected the increasing interest in the effect of the environment on health. In NHANES I the major project in the environmental field was the collection and analysis of household water samples for various bulk elements and trace metals. New environmentally related tests were developed for NHANES II.

Air pollution or, specifically, carbon monoxide pollution is an often cited problem in many cities of the United States. Carbon monoxide is a colorless, odorless gas that is a product of incomplete combustion and is primarily produced from industrial plants, electric power plants, and automobile exhaust. It has been suggested that carbon monoxide may act to precipitate cardiac symp tomatology or episodes by reducing the supply of oxygen to a heart already compromised by coronary disease. Because of the lack of acceptable information on the body burden

of carbon monoxide and the potential deleterious health effects due to carbon monoxide air pollution, it was thought to be an appropriate area of study for NHANES II.

Since smoking also results in higher carbon monoxide levels, questions on smoking were included in the survey. Carboxyhemoglobin determinations were done on a half-sample of examinees 3-74 years of age. Special care was taken in quality control for the laboratory determinations, including the use of a reference laboratory. Analysis of data should indicate whether and where carbon monoxide pollution is a significant problem.

For many years lead poisoning has been considered an important public health problem, particularly in children. Some important causes of high body levels of lead are contaminated foods, automobile exhaust, and, in children, lead paint. Lead poisoning can produce many adverse effects, including anemia, anorexia, colic, p arietitis, hypertension, arteriola degeneration, permanent renal damage, encephalopathy, mental retardation, blindness, cerebral atrophy, glycosuria, visual disturbances, epilepsy, and palsy.

In a meeting on trace elements, Dr. Katherine Mahaffey of the Food and Drug Administration gave the following rationale for a survey of lead levels in blood:

- Available data come either from populations where lead contamination is suspected to be high or from specific control groups where lead contamination is expected to be very low. There is no information about the distribution of lead levels in blood for the general U.S. population.
- The variability with age is not known.
- With expected large-scale changes in exposure of the population to lead, knowledge of present serum lead levels is needed as a baseline for future studies. Normative information is essential to substantiate regulatory decisions based upon knowledge of the biological meaning of high lead levels coupled with available data on lead levels at minimal lead exposure.

Blood determinations were made on all children through the age of 6 and on a half-sample of all examinees over that age. Because of the interest of the Food and Drug Administration in the lead determinations, the laboratory cost of the test was underwritten by the Bureau of Foods, Food and Drug Administration, and the determinations were made by the Bureau of Laboratories of the Center for Disease Control.

The Environmental Protection Agency is authorized under Public Law 92-5 16 to monitor not only the environment but human beings as well for evidence of pesticide exposure or contamination. The National Human Monitoring Program for Pesticides is operated by the Environmental Protection Agency in partial fulfillment of the legislative mandate. The program's goal is to determine on a national scale the amount of exposure of the general population to pesticides. It was considered by the Environmental Protection Agency that NHANES II could establish important baseline data on the body burdens of several types of pesticides through blood and urine analysis (appendix III). With the use of chlorinated hydrocarbon pesticides declining and that of organophosphate carbamate and phenoxy-type compounds increasing, the capacity to determine human exposure to these new, widely used pesticides has become imperative. In order to obtain this information, the Environmental Protection Agency offered to underwrite the laboratory cost of pesticide level determinations of a half-sample of NHANES II examinees 12-74 years of age. A few questions relating to exposure to pesticides were added to the questionnaires, and blood and urine specimens were obtained on the half-sample.

The Center for Disease Control asked NCHS to include a survey component for venereal disease in NHANES II. The two diseases to be studied were gonorrhea and syphilis. Syphilis testing involved few problems because it had already been included in NHES I (1960-62)[1] and the 1974-75 NHANES I Augmentation Survey.[5] Inclusion of the serological tests for syphilis on the full sample of persons 12-74 years of age provided opportunity for analysis of the data by population subgroups as well as a comparison with the 1960-62 survey. The serology determinations for syphilis included qualitative and quantitative ART, an FTA-ABS, and an MHA-TP. The tests are classified respectively as flocculation, immunofluorescence, and hemeagglutination.

It is more difficult to test for the presence of gonorrhea. At present there is no serological test for gonorrhea specific enough to be suitable for survey purposes. The standard clinical method for women involves taking an endocervical culture at the same time that a Pap specimen is taken. Experience at our initial pretesting operation indicated that many women were unwilling to undergo this procedure in a survey setting, and it was therefore decided to omit it from the examination. Instead, a somewhat less sensitive method was used that involved culturing urinary sediments obtained after centrifuging urine specimens. The age range of individuals studied was 12-40 years for males and females, and of those females who received the glucose tolerance test, only those 20-24 years of age had the gonorrhea test done.

Sample design for NHANES II

The general structure of the NHANES II sample design is similar to the designs of NHANES I[4] and the first three health examination surveys conducted by the National Center for Health Statistics.[1-3, 18] The design is a stratified, multistage, probability cluster sample of households throughout the United States. The process of selecting a sample of persons to be examined is a cascading one that involves the selection of primary sampling units (PSU's—a PSU is a county or small group of contiguous counties), census enumeration districts (ED's), segments (a segment is a cluster of households), households, eligible persons, and finally sample persons. The major difference between the NHANES I and NHANES II designs is the use of a different set of definitions and stratification procedures for PSU's. The details of the NHANES II sampling plan, which resulted in a total of 27,803 sample persons and 20,325 examined persons in 64 PSU's throughout the United States, are described in the following sections.

Design specifications

The planning phase for NHANES II is described in a previous section, along with many of the survey objectives. The survey specifications that directly affected the sample design were as follows:

- NHANES II should be a probability sample whose target population is the civilian, noninstitutionalized population of the United States (including for the first time Alaska and Hawaii) for persons 6 months through 74 years of age.
- Subgroups of the population of special interest for nutritional assessment should include preschool children (6 months - 5 years), the aged (60 - 74 years), and the poor (persons below the poverty level as defined by the U.S. Bureau'of the Census using 1970 census results). These groups should be oversampled to improve the reliability of the statistics for the subgroups.
- The total sample size selected for NHANES II should result in approximately 2 1,000 examined persons.
- The number of sample persons selected in each PSU should be between 300 and 600.
- The data collection mechanism used in NHANES I should be used in NHANES II with appropriate modifications. Examinations should be conducted in three mobile examination centers. At any time during the survey period (except holidays) two of the centers should be operating in different locations while the third is being serviced or relocated.
- The total period of data collection should be 3 to 4 years.
- The average length of an individual examination should be between 2 and 3 hours, but it should vary depending on the age of the examinee. The time required to examine a preschooler should be less than 1 hour, while the time for an adult should not exceed 2½ to 3 hours.
- Approximately one person per sample household should be selected for an examination. The exact number of persons selected for an examination in each household should be determined by applying the sampling rates designated for the different age groups.
- The size of the PSU should be defined so that it is optimal with respect to cost and response and results in national statistics with an acceptable level of precision.
- The survey should be designed so that precise statistics can be produced for the four broad geographic regions of the United States and for the total population by age, sex, race classifications.

These sample design specifications took a number of factors into account, including budgetary resources, logistical constraints, time limitations, equipment mobility, and unit operating costs. The specifications

also reflected the experience gained from past examination surveys.

One of the major survey objectives of NHANES II was the examination of a high percent of sample persons. The overall response rates in the examination surveys conducted by NCHS had continually declined since the 1960's. The response rate for the two surveys of the total U.S. population had declined from 87 percent in the early 1960's to 74 percent in the early and mid-1 970's. There were multiple reasons for this decline in response–some controllable and some not. Whatever the reasons, the results of the survey may have been biased because a large proportion of sample persons had not been examined. A design change that was investigated for improving response was the use of smaller geographical areas as PSU's. The PSU's used in previous examination surveys had been defined either as a single county or as a group of contiguous counties (except in certain parts of New England). Many of the larger PSU's were defined as standard metropolitan statistical areas (SMSA's) and often contained several counties. The PSU's that contained several counties and covered a large area were not ideally suited for an examination survey. Attempting to survey large geographic areas from a centrally located examination center created a number of logistical problems. Some examinees had been asked to travel more than 50 miles to be examined, while others had been asked to travel through very congested areas. Many respondents were reluctant to travel under such conditions. The cost of followup visits to the households was also a function of the distance or time from the examination center. An analysis of the response rates for several stands in NHANES I lent further support to these assumptions. The use of smaller areas as PSU's would reduce both the average distance traveled to the examination center by examinees and the cost of the field work. These considerations were the basis for redefining and restratifying the PSU's in NHANES II.

Definition and stratification of primary sampling units

The first-stage sampling units selected in the previous NHES and NHANES I surveys were subsets of the sample PSU's in the National Health Interview Survey (NHIS). NHIS is one of the NCHS major data collection programs, the design of which is described in an NCHS report[19] and in a technical paper[20] by the U.S. Bureau of the Census. In NHIS the United States is subdivided into 1,924 PSU's, with 376 of the PSU's being selected for the sample. Sixty-five of these 376 sample PSU's were selected as the NHANES I sample. In redefining PSU's for NHANES II, the formation of PSU's for NHIS was reviewed. The PSU's for NHIS had been defined by the Bureau of the Census and are the same as those used for the Current Population Survey.[20] With some slight oversimplifications the following criteria had been used to define PSU's for NHIS:

- Each SMSA is a separate PSU.
- Each PSU is composed of a single county or contiguous counties (in some New England States minor civil divisions are used).
- Each PSU is defined within the four census regional boundaries.
- The area of a PSU is less than 2,000 square miles in the West and less than 1,500 square miles elsewhere.
- The 1970 population of a PSU is at least 7,500 in the West and at least 10,000 elsewhere.

The NHIS PSU's that contained more than one county were either SMSA's or had been defined using the last criterion above and represent rural areas. Since rural areas have traditionally had high response rates in the health examination surveys, the only PSU's considered for redefinition were the SMSA's. In the NHIS design, about 60 percent of the SMSA's contained a sufficiently large population to be selected for the sample with certainty (with a probability of one) and are referred to as self-representing PSU's. In NHIS, 156 of the 376 PSU's are self-representing SMSA's. It was these 156 self-representing SMSA's in the NHIS design that were redefined and restratified for the NHANES II design.

For NHANES II, the self-representing PSU's in NHIS were first split along county boundaries. Within each region, each of the counties was classified as being either a self-representing or a nonself-representing PSU. The PSU's that were nonself-representing were further combined into homogeneous classes or strata equal in size to the NHIS strata containing nonself-representing PSU's.

The formation of new strata were governed by the following rules:

- Each new PSU with a population of more than 250,000 in 1970 was classified as a self-representing PSU. In a few special cases, some PSU's with slightly smaller populations were classified as self-representing.
- The remaining newly defined PSU's were combined with other PSU's having similar sociodemographic characteristics to form a number of nonself-representing strata. The PSU's within a stratum were all located in the same geographic region.
- Each of the nonself-representing strata was made to have about the same population. The average stratum contained about 350,000 persons in 1970.

This method of stratification and the stratification variables used to form NHIS nonself-representing

strata are the basis for the procedures used to form the larger strata for NHANES II described in the next section.

The regional boundaries used in stratifying PSU's differ from regional boundaries as defined by the Bureau of the Census. Figure 1 shows the different regional boundaries used in NHANES II and the census. In order to produce regional estimates with approximately equal precision, the NHANES II regions were defined so that they would each contain approximately the same number of sample PSU's. Because of the small sample size for NHANES II, a regionally balanced design was needed for producing regional statistics.

Table A shows the effect of subdividing the self-representing PSU's in NHIS and redefining the PSU's by using county boundaries. A total of 397 PSU's were formed from the 156 self-representing PSU's: 198 were defined as self-representing, and 199 were defined as nonself-representing and subsequently used to form an additional 43 nonself-representing strata. The average population of a self-representing PSU was reduced from 838,000 to 584,000. In area, the average size of these PSU's was reduced more than 60 percent, from 2,185 square miles to 855 square miles.

Formation of superstrata in NHANES II

After the 46 1 first-stage units (NHIS strata) had been defined, they were further stratified into a total of 64 superstrata for the NHANES II design. One PSU was selected from each of the superstrata, and these PSU's represented the 64 geographic locations visited by the mobile examination centers during the survey period. The stratification and selection of first-stage units in NHANES II is as follows.

The number of primary sampling units had to be determined before the number of superstrata could be determined. Because of the design specifications, the maximum number of locations that could be visited during a 4-year period is approximately 80 stands.

In order to decide the number of first-stage units to select, a series of design calculations were made. A general description of the process is presented elsewhere.[18] The design model used incorporated such factors as total budget, unit costs, and precision of estimates obtained in previous surveys for a variety of health characteristics. These calculations showed that the optimum number of locations to select was 130, examining 160 persons per stand. One important variable not built into the design model, however, was "down time." Moving from one location to another requires 1 full week, even when a third examination center can be relocated and hooked up in advance. Time is required for closing the office, packing the equipment, traveling to the new location, and setting up and calibrating the equipment. Locating in 130 different areas over a 3- to 4-year period implies that 2 weeks or less would be spent at each location. This length of time was felt to be too short to achieve required response rates since, in many areas, repeated callbacks are required to achieve a 75-percent examination rate. Previous field experience had indicated that staying in an area for only 2 weeks could reduce response rates by as much as 10 percent.

Taking all of the logistical problems into consideration led to the selection of a design of 64 primary locations with an average expected number of about 440 sample persons per location. Thus, an examination center would be located in each area for a period of 4 to 6 weeks. With two examination teams being

Table A. Number and population of National Health Interview Survey (NHIS) strata before and after subdivision of self-representing primary sampling units, by type of stratum and National Health and Nutrition Examination Survey region

[Population estimates are based on 1970 Decennial Census]

Type of stratum and region	NHIS strata			Redefined strata		
	Number of strata	Population in thousands	Average population in thousands	Number of strata	Population in thousands	Average population in thousands
Self-representing						
All strata	156	130,760	838	198	115,629	584
Northeastern	50	41,897	838	64	36,795	575
Midwestern	30	3 1,890	1,063	43	27,831	647
Southern	38	22,706	598	49	19,674	402
Western	38	34,266	902	42	3 1,329	746
Nonself-representing						
All strata	220	72,679	330	263	87,811	334
Northeastern	20	7,144	357	34	12,246	360
Midwestern	61	20,279	332	73	24,339	333
Southern	84	26,752	318	93	29,785	320
Western	55	18,504	336	63	21,441	340

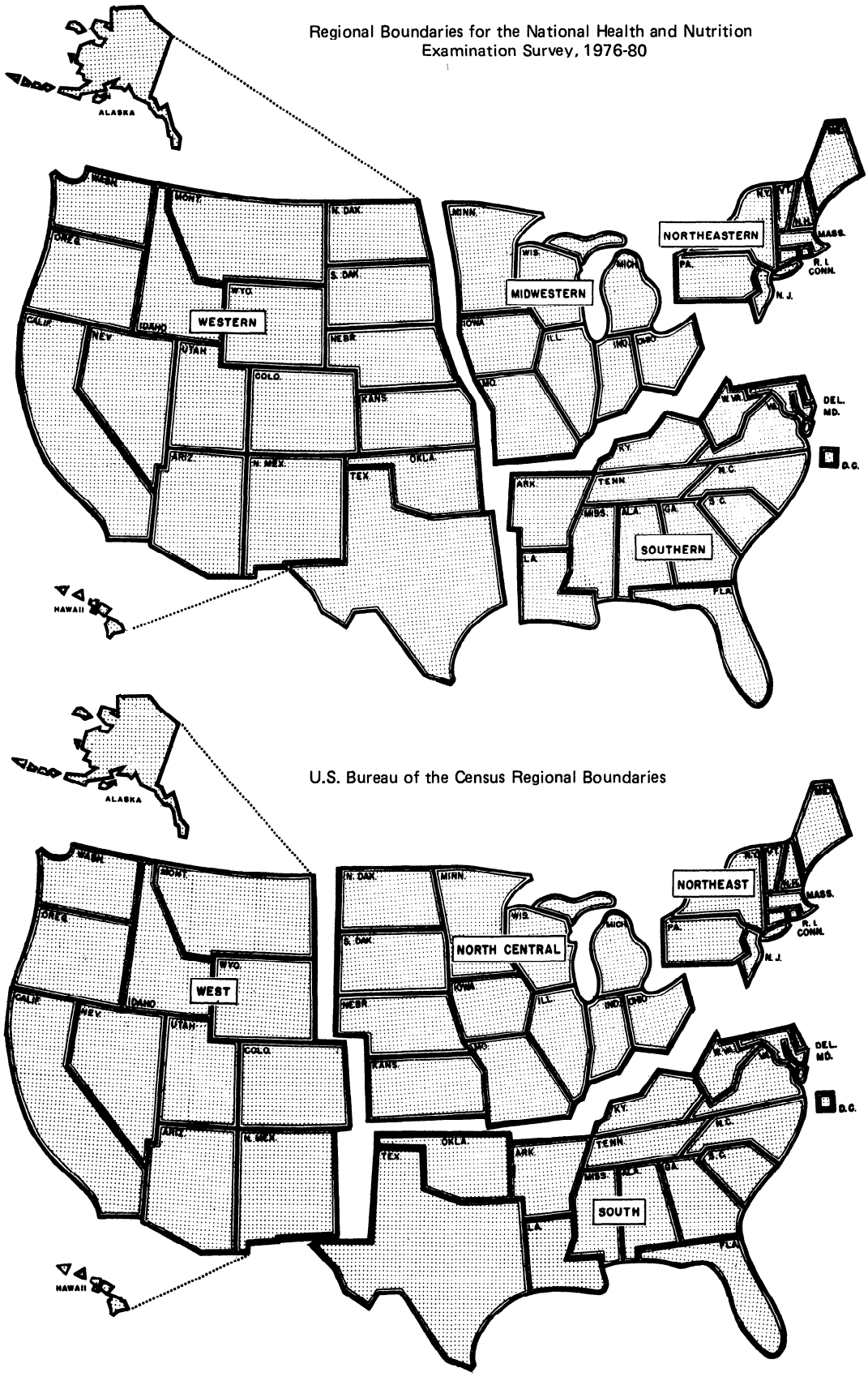


Figure 1. Comparison of regional boundaries for the National Health and Nutrition Examination Survey, 1976-80, with those defined by the U.S. Bureau of the Census

employed simultaneously, about 16 stands could be completed per year. A final comparison was made between the selected design and the design that was optimum with respect to sampling error. It was concluded that the final selected design would decrease the reliability of the survey estimates by about 10 percent from those of the optimum design but would substantially reduce the nonsampling component of error.

Because of the small number of primary sampling units, it was decided that the maximum amount of stratification should be used: that the NHIS strata be stratified in 64 superstrata and one PSU be selected per superstratum. The object of stratification is to group the strata with similar characteristics into homogeneous superstrata. A stepwise regression analysis was used to determine which variables would be most effective for collapsing NHIS strata into superstrata. Since NHANES II is a health survey, it would be preferable to use health or health-related variables for stratification. The variables used for stratification must, however, be available at the county level to combine counties or groups of counties into strata. Since health variables were not available at the county level, the stepwise regression analysis was used to study the relationship between the sociodemographic variables that are available for all counties and a set of selected health variables from a previous health examination survey. For the analysis, measurements on all the variables listed below were made for each of the sample PSU's in the first health examination survey. The dependent variables used in the regression analysis were

- Infant mortality rate and number of infant deaths.
- Percent and number of persons with kidney trouble.
- Percent and number of persons with heart trouble.
- Percent and number of persons with hypertension.
- Percent and number of persons with high levels of serum cholesterol.

The independent variables used in the analysis were

- Population.
- Rate of growth.
- Density (population per square mile).
- Percent urban.
- Percent manufacturing.
- Median income.
- Percent races other than white.
- Percent below poverty level.
- Percent Hispanic origin.
- Total Hispanic population.
- Population below poverty level.

These variables were defined by the U.S. Bureau of the Census and included the variables that had previously been used for stratification in NCHS examination surveys.

A stepwise regression was performed for each of the dependent variables. When the total number (rather than percent) of persons with a health condition was used for a PSU as the dependent variable, the only independent variable that entered the regression model was population. This demonstrates the importance of either stratifying the PSU's according to their population size or selecting the sample PSU's from strata with a probability proportional to their size. When the stepwise regressions were run for the percent of persons with a given health condition, a number of independent variables entered the regression model. Table B presents the results of the analysis by region. Table C shows the correlation matrix for the health variables and for selected sociodemographic variables. The independent variables that entered the final regression model varied by health condition and among regions. Summarizing the results over all of the health conditions within each region led to some general conclusions: median income was the first or second most important independent variable within each region; the percent of the population below the poverty level was always among the three most important variables in each region; and either "percent races other than white" or "percent Hispanic origin" was among the three most important variables in all but one of the regions. These results were further supported by the correlations shown in table C for the total U.S. population. Although the overall correlation between percent Hispanic and the health variables is low for the total United States, percent Hispanic entered the regression model for the Northeastern and Western Regions. Because of these results, the following sample design decisions were made and implemented:

- The first and second most significant independent variables in each region were used as stratification variables.
- The third most important independent variable in the stepwise regression analysis in each region was used as a control selection variable (described in the next section).
- The formation of superstrata was performed separately for self-representing and nonself-representing strata within each region.
- Population size was used at the first level of stratification within each region.
- Sixteen superstrata were formed in each region. The superstrata were each about the same size, each containing approximately 3,200,000 persons according to the 1970 decennial census.

Table B. Variables in final stepwise regression model, by region

Dependent variable	Independent variables in final regression model			
	Northeastern Region	Midwestern Region	Southern Region	Western Region
Infant mortality rate	Percent below poverty level Percent races other than white Median income Percent Hispanic origin Percent manufacturing	Percent races other than white Percent Hispanic origin	Percent races other than white Percent urban Percent below poverty level Median income	Percent below poverty level Median income Percent manufacturing Rate of growth Percent Hispanic origin
Percent with kidney trouble	Percent Hispanic origin Percent below poverty level Median income Percent races other than white	Median income Rate of growth	Percent manufacturing Percent below poverty level Median income	Percent Hispanic origin Percent races other than white Rate of growth Percent manufacturing Percent below poverty level Median income
Percent with heart trouble	Percent races other than white Percent manufacturing Percent Hispanic origin Median income	Median income Rate of growth Percent below poverty level	Median income Percent manufacturing Percent urban	Percent Hispanic origin
Percent with hypertension	Rate of growth Percent below poverty level	Rate of growth Percent races other than white Percent below poverty level Percent Hispanic origin Median income	Percent below poverty level Median income Rate of growth Percent urban Percent races other than white	Percent Hispanic origin Rate of growth Percent manufacturing Median income
Percent with high serum cholesterol	Percent Hispanic origin Median income Percent manufacturing Percent below poverty level	Median income Percent below poverty level Percent Hispanic origin Percent races other than white	Percent manufacturing Percent below poverty level Median income Infant mortality rate	Median income Percent Hispanic origin Rate of growth

In accordance with the decision to use the first and second most significant independent variables in addition to population size, the following variables were used as stratification variables for NHANES II:

Northeastern Region:

Population in stratum
Median income
Percent below proverty level

Midwestern Region:

Population in stratum
Median income
Rate of growth

Southern Region:

Population in stratum
Median income
Races other than white plus Hispanics

Western Region:

Population in stratum
Median income
Races other than white plus Hispanics

The actual formation of the superstrata in NHANES II was performed in two stages. During the first stage the NHIS strata were classified into 64 superstrata according to region, type of stratum (self-representing or nonself-representing), size of stratum (large or small), income (low, middle, or high), percent races other than white plus Hispanics (low or high), and percent below poverty level or rate of growth (low or high). The classification procedure used to form the preliminary superstrata is shown in table D. An important effect of the stratification process was the formation of superstrata containing only central cities, suburban counties, or rural counties. Although some precision was lost by splitting the larger SMSA's, it was hoped that a gain in precision would result from the division of central cities and noncentral cities into separate strata.

The final stage in the formation of superstrata was a cluster analysis of the superstrata formed in the first stage. The cluster analysis was performed separately in each region for the self-representing and nonself-representing strata. Within each of these subdomains the strata were ranked from lowest to highest by population size, area, percent manufacturing, rate of growth, percent urban, percent races other than white plus Hispanics, median income, and percent below poverty level. For each pairwise

Table C. Correlation matrix for health and sociodemographic variables

	Infant mortality rate	*Percent with kidney trouble*	*Percent with heart trouble*	*Percent with hyper-tension*	*Percent with high serum cholesterol*	*Popu-lation*	*Rate of growth*	*Density*	*Percent urban*	*Percent manu-facturing*	*Median income*	*Percent races other than white*	*Percent below poverty level*	*Percent Hispanic origin*
Infant mortality rate	1.00	.20	.21	.25	-.46	-.20	-.19	-.08	-.42	-.38	-.50	.88	.77	.01
Percent with kidney trouble		1.00	.49	.14	-.16	-.41	-.13	-.27	-.32	-.50	-.61	.27	.54	.02
Percent with heart trouble			1.00	.69	-.17	-.11	-.49	-.05	-.39	-.10	-.56	.31	.44	-.31
Percent with hypertension				1.00	-.09	-.05	-.56	.05	-.35	-.01	.46	.23	.39	-.24
Percent with high serum cholesterol					1.00	.30	-.06	.01	.14	.04	.21	-.42	-.27	-.14
Population						1.00	.13	.61	.32	.34	.53	-.17	-.38	.23
Rate of growth							1.00	-.09	.51	.10	.59	-.23	-.44	.47
Density								1.00	.13	.11	.20	-.06	-.14	.18
Percent urban									1.00	.36	.79	-.36	-.70	.24
Percent manufacturing										1.00	.57	-.36	-.64	-.20
Median income											1.00	-.56	-.90	.22
Percent races other than white												1.00	.77	.13
Percent below poverty level													1.00	-.09
Percent Hispanic origin														1.00
Average absolute correlation with health variables						.21	.29	.09	.32	.21	.47	.42	.48	.14

combination of strata, the Euclidean distance between the ranks was computed. For stratum A and stratum B, the Euclidean distance is defined as

$$d(\mathrm{A,B}) = \sum_{i=1}^{p} (r_{iA} - r_{iB})^2$$

where

p is the number of variables,

r_{iA} is the rank of the ith variable for NHIS stratum A, and

r_{iB} is the rank of the ith variable for NHIS stratum B.

The smaller the value of d(A,B) the more alike the strata are. The d(A,B) values were then evaluated for each pairwise combination of strata in the NHANES superstrata. Because of the overlap between the variables used for stratification and the variables used to compute the measure d(A,B), the d(A,B) values within a superstratum should be relatively small. This was generally true. A substantial number of individual strata were identified, however, whose sum of d(A,B) values with other members of the superstratum was large. In these cases, an attempt was made to realine the strata within the superstrata so that the sum of the d(A,B) values over all of the superstrata was minimized for each subdomain. Because of the number of constraints imposed on the stratification process, these adjustments were performed manually. This procedure substantially reduced the sum of the d(A,B) values within the superstrata and produced a more efficient stratification. Cluster analysis was also similarly used for the formation of nonself-representing strata using the newly defined nonself-representing PSU's.

Selection of sample locations

The selection of one PSU per superstratum utilized a modified Goodman-Kish[2 1 ,2 2] control selection technique. The control selection procedure was used to insure that the selected first-stage sampling units represented a "balanced" sample with respect to the control selection variables used. For example, within a region one might want to insure that the final sample PSU's were distributed evenly across States or across groups of States. This could be achieved by using the "State groups" within a region to control the number of PSU's selected within each State group. The first step in this selection process involves defining a set of admissible patterns (samples) so that each pattern has an acceptable distribution of PSU's across the control classes. A pattern or potential sample is admissible if the difference between the number of selected PSU's is within 1 of the number of PSU's expected to be

Table D. Variables used for stratification in the National Health and Nutrition Examination Survey, by region

Region and type of stratum	Number of superstrata	Stratification variables		
		Income	Races other than white plus Hispanics	Rate of growth or percent below poverty level
				Percent below poverty level
Northeastern	16			
Self-representing strata	12			
Highly urban-New England[1]	1			
Other urban-New England	1			
Large counties (by population)	6	high, medium, low		high, low
Small counties (by population)	4	high, low,		high, low
Nonself-representing strata	4			
New England places	1			
Other	3	high, medium, low		
				Rate of growth
Midwestern	16			
Self-representing strata	8			
Certainty*	1			
Large counties (by population)	4	high, low		high, low
Small counties (by population)	3	high, medium, low		
Nonself-representing strata	8			
Large strata (by, population)	4	high, low		high, low
Small strata (by population)	4	high, low		high, low
Southern	16			
Self-representing strata	6			
Large counties (by population)	3	high, medium, low		
Small counties (by population)	3	high, medium, low		
Nonself-representing strata	10			
Large strata (by population)	6	high, medium, low	high, low	
Small strata (by population)	4	high, low	high, low	
Western	16			
Self-representing strata	9			
Certainty*	2			
Large counties (by population)	4	high, low	high, low	
Small counties (by population)	3	high, medium, low		
Nonself-representing strata	7			
Large strata (by population)	4	high, low	high, low	
Small strata (by population)	3	high, medium, low		

[1] New England is subdivided into townships rather than counties.
[2] Cook County in the Midwestern Region and Los Angeles County (2 stands) in the Western Region were selected into the sample with a probability of 1.

drawn from each control class based on its population. The total set of patterns is formed so that the probability of selecting any PSU within a superstratum is proportional to its population. Each pattern within the set is assigned a probability of selection based on the size of the sample PSU's within the pattern. The sum of the probabilities of selection over all patterns is equal to 1. After the probabilities of selection for the patterns were accumulated, a sample pattern was randomly selected for NHANES II. A detailed description of this controlled selection process is given in an NCHS report.[18]

Two control selection variables were chosen within each region for NHANES II. The variable "State group" was used in all four regions, and "percent below poverty level" was used in every region except the Northeastern, where "percent races other than white plus Hispanics" was used. Thus, the final sample of PSU's was drawn so that the sample did not appreciably overrepresent or under-represent any State group or quartiles representing percent below poverty level or percent races other than white plus Hispanics. The control selection procedure was applied separately within the self-representing and nonself-representing superstrata in every region except the Northeastern, where the control selection was applied to the total region. The control variables used within each region are defined in table E, and the expected and actual number of PSU's selected from each control class are shown in table F. The "percent below poverty level" or "percent of races other than white plus Hispanics" classes were defined within each region by classifying approximately equal numbers of NHIS strata into quartiles.

Classifying the strata into control classes was straigh tforward for the self-representing strata (one PSU per stratum). The classification of the nonself-representing strata into control classes was more complicated. The PSU's within each of the NHIS strata are often not all in the same State group,

"percent below poverty level," or "percent races other than white plus Hispanics." This complication was remedied by selecting a sample PSU within each of the nonself-representing strata. Within each of the original NHIS nonself-representing strata, the NHIS sample PSU was designated as the NHANES II sample PSU. In the newly defined nonself-representing strata a sample PSU was selected with a probability proportional to its size. The sample PSU's within the strata were selected before the sample strata were selected within the superstrata. The sample PSU's within the nonself-representing strata were then used to classify the strata by State group, percent below poverty level, or percent races other than white plus Hispanics. The selected survey locations for NHANES II are shown in table G.

Selection of housing units within sample locations

The Bureau of the Census had the responsibility for selecting housing units and sample persons within each of the 64 primary locations. The Bureau of the Census was also responsible for specifying and implementing the sample design within PSU's and for oversampling the subgroups of the population of special interest.

Two sampling frames were used to select the sample of housing units within each of the PSU's. The larger frame was based on the 1970 census of the population. This frame was supplemented by a frame that contained new housing units constructed since the 1970 census.

The first stage of design within a PSU involved the selection of clusters of housing units (segments) within enumeration districts (ED's). An ED is a geographical area containing approximately 3 00 housing units. In order to oversample persons with low incomes, the ED's were sorted into poverty or nonpoverty strata as follows: the poverty strata contained ED's with 13 percent or more of persons below the poverty level, and the nonpoverty strata contained ED's with less than 13 percent of persons below the poverty level as determined by the 1970 census. The poverty index for households was based on 1969 income, size of family, sex of head of family, age (under 65 years or 65 years and over) of head of family, and farm or nonfarm status. A measure of size was determined for each ED by dividing the number of listed housing units in an ED by 4. Within each stratum the ED's were then selected with a probability proportional to their measure of size. The number of ED's selected in each stratum was based on a number of factors that are described below.

According to previous experience, it was assumed that a response rate of approximately 75 percent would be obtainable in NHANES II. To examine 2 1,000 persons, approximately 28,000 persons needed to be selected from the sample households. A mathematical model[2 3] was used to determine the sample size for each PSU and the optimum number to select in the poverty and nonpoverty strata within PSU's. The sample was allocated in such a way as to minimize the variance of the estimated proportion of persons below the poverty level for a fixed total

Table E. Definition of control classes used for the selection of primary sampling units, by region: National Health and Nutrition Examination Survey, 1976-80

Region	1st variable		2nd variable	
	State group code	State group	Quartile	Definition of quartile
				Percent races other than white-plus Hispanics
Northeastern	A	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	1	Lowest
			2	Low-middle
	B	New York	3	Middle-high
	C	New Jersey, Pennsylvania	4	Highest
				Rate of growth and percent below poverty level
Midwestern	A	Ohio	1	Lowest
	B	Indiana, Michigan, Wisconsin	2	Low-middle
	C	Illinois	3	Middle-high
	D	Minnesota	4	Highest
	E	Iowa, Missou ri		
				Percent below poverty level
Southern	A	Delaware, District of Columbia, Maryland, Virginia	1	Lowest
	B	Kentucky, Tennessee, West Virginia	2	Low-middle
	C	Alabama, Arkansas, Louisiana, Mississippi	3	Middle-high
	D	Georgia, North Carolina, South Carolina	4	Highest
	E	Florida		
Western	A	California	1	Lowest
	B	Oregon, Washington	2	Low-middle
	C	Texas	3	Middle-high
	D	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Oklahoma, Utah, Wyoming, Alaska, Hawaii	4	Highest
	E	Kansas, Nebraska, North Dakota, South Dakota		

Table F. Expected and actual number of sample primary sampling units (PSU's) within control classes, by region and type of stratum

[The control classes are defined in table E. The expected number of PSU's in a control class is based on its population]

Region and type of stratum	State group					Quartiles representing percent below poverty level or percent races other than white plus Hispanics			
	A	B	C	D	E	1	2	3	4
Northeastern[1]									
Expected number of PSU's	3.86	5.56	6.58	...	...	4.42	3.66	3.97	3.94
Actual number of PSU's	4	5	7	...	...	4	4	4	4
Midwestern									
Self-representing strata[2]:									
Expected number of PSU's	1.93	2.71	0.80	0.57	0.99	1.05	2.73	2.38	0.84
Actual number of PSU's	2	2	1	1	1	1	2	3	1
Nonself-representing strata:									
Expected number of PSU's	1.17	3.57	0.65	0.84	1.76	2.05	1.86	2.02	2.07
Actual number of PSU's	1	4	1	1	1	2	2	2	2
Southern									
Self-representing strata:									
Expected number of PSU's	1.94	0.72	0.95	1.02	1.37	1.61	1.57	1.54	1.28
Actual number of PSU's	2		1	1	2	2	2	1	1
Nonself-representing strata:									
Expected number of PSU's	1.18	2.45	2.83	2.82	0.72	2.44	2.57	2.46	2.53
Actual number of PSU's	1	3	3	3		2	3	2	3
Western									
Self-representing strata[2]:									
Expected number of PSU's	3.16	0.84	1.55	1.26	0.19	2.01	1.76	2.09	1.15
Actual number of PSU's	3	1	1	1	1	2	2	2	1
Nonself-representing strata:									
Expected number of PSU's	0.82	0.98	1.92	2.16	1.12	1.80	1.81	1.73	1.65
Actual number of PSU's	1	1	2	2	1	2	2	1	2

[1] Self-representing and nonself-representing strata combined for control selection.
[2] Excludes self-representing superstrata from the National Health and Nutrition Examination Survey, 1976-80.

sample size. The allocation procedure employed produced a sample that varied in expected sample size from 28 1 to 78 1, with an average of 437 persons per PSU. All but 11 of the sample sizes were within the operationally acceptable range of 300 to 600 sample persons. To conform to the design specifications, the expected sample size for each of these PSU's was adjusted to fall between 3 15 and 585 persons. The average ratio of the sampling rate within the poverty stratum to the sampling rate within the nonpoverty stratum was 2.3. This ratio ranged from 1.48 to 5.01 across the sample PSU's, with 90 percent of the ratios being between 1.5 and 3.0.

The households within each ED were clustered into segments in order to reduce the expense of interviewing within ED's. Results from previous surveys had indicated that a cluster of eight listed addresses would provide an adequate design. To further insure the sampling reliability, clusters of 16 listed addresses were drawn from the sampling frames and then systematically subsampled at a rate of 1 out of 2 to produce a final segment of eight address listings.

Using the survey specification that approximately one person should be examined per household (see the next section for the household sampling procedure), the expected number of segments needed within each PSU was determined by dividing the PSU sample size by 8. The segments were drawn separately from within the poverty and nonpoverty strata. A systematic sample of segments were then selected across all ED's, with no more than one segment being selected per ED. The new construction frame was sampled at the same rate as the nonpoverty stratum.

Several factors were used to decide the sample size within each PSU. The sample size needed in each PSU was a function of the age distribution within the PSU, the proportion of the population below the poverty level, the expected number of vacant and other types of ineligible units, the expected number of refusals, and the expected number of persons in group quarters. Since the census information did not include the number of persons per segment and was out of date, an additional 15 reserve segments were drawn for each PSU as a precautionary measure. These segments were drawn from both poverty and nonpoverty strata.

Because of the complexity of the examination survey and the logistical arrangements that had to be planned in advance, the number of persons selected

Table G. Primary sampling units, stand sites, and percent of persons examined, by region: National Health and Nutrition Examination Survey, 1976-80

Primary sampling units within regions	*Stand site*	*Percent of persons examined*	*Primary sampling units within regions*	*Stand site*	*Percent of persons examined*
United States 64		73.1	Southern. 16		73.8
Northeastern. 16		67.4	De Kalb, Ga.	Atlanta'	70.6
Bronx, N.Y.	New York City'	61.8	Newport News (city), Hampton (city), Va.	Newport News-Hampton'	79.3
Westchester, N.Y.	New York City[1]	51.4	Dade, Fla.	Miami'	72.8
Manhattan, N.Y.	New York City'	56.7	District of Columbia	Washington, D.C.[1]	68.7
Bergen, N.J.	Patterson-Clifton-Passaic'	63.6	Caddo, La.	Shreveport' .	71.4
Allegheny, Pa.	Pittsburgh'	60.4	Brevard, Fla.	Cocoa	74.2
Mercer, N.J.	Trenton'	70.5	Poinsett, Ark.	Marked Tree	84.7
Montgomery, Pa.	Philadelphia'	57.8	Bledsoe, McMinn, Meigs, Rhea, Tenn.	Athens, Pi keville	71.4
Union, N.J.	Newark'	61.9	Blount, St. Claire, Ala.	Oneonta, Pell City	73.3
Erie, Pa.	Erie'	77.4	Hardin, Larue, Nelson, Ky. . . .	Elizabethtown, Bordstown	76.0
Orange, N.Y.	Middletown'	70.8	Greene, Harrisonburg (city), Rockingham, Va.	Harrisonburg	70.4
Norfolk (part), Mass.	Boston'	58.0	Lafayette, La.	Lafayette'	69.2
Hartford (part), New Haven (part), Conn.	New Britain ,[1] Meriden [1]	69.2	Floyd, Johnson, Magoffin, Ky. .	Saylersville, Prestonburg	69.1
Cumberland (part), Maine	Portland'	70.8	Craven, Pitt, N.C.	Greenville, New Bern	76.0
Lycoming, Pa.	Williamsport	79.0	Banks, Hall, Towns, White, Ga. .	Gainesville, Cleveland	74.5
Delaware, N.Y.	Oneonta	79.5	Cherokee, York, S.C.	Rock Hill	78.6
Bristol (part), Norfolk (part), Mass.	Pawtucket	74.8	Western. 16		77.4
Midwestern 16		73.7	Harris, Tex.	Houston'	65.2
Cook, Ill.	Chicago'	54.8	Santa Clara, Calif.	San Jose'	74.2
Wayne, Mich.	Detroit'	71.4	Honolulu, Hawaii	Honolulu'	71.8
Hamilton, Ohio	Cincinnati'	73.2	San Diego, Calif.	San Diego'	73.4
Marion, I nd.	Indianapolis'	70.7	Pierce, Wash.	Tacoma'	80.4
Hennepin, Minn.	Minneapolis-St. Paul[1]	79.3	Sedgwick, Kans.	Wichita'	76.7
Montgomery, Ohio	Dayton'	74.2	Fresno, Calif.	Fresno[1]	82.8
Lake, Ill.	Chicago'	65.8	Linn, Oreg.	Albany	84.1
Polk, Iowa.	Des Moines'	73.0	Potter, Randall, Tex.	Amarillo'	79.7
Dakota, Minn.	Minneapolis-St. Paul[1]	83.7	Yolo, Calif.	Woodland	82.6
Racine, Wis.	Racine[1]	78.1	Laramie, Wyo.	Cheyenne	83.4
Greene, Monroe, Ind.	Bloomington	78.5	Bingham, Idaho.	Blackfoot	88.4
Coles, Cumberland, I ll.	Mattoon	74.3	Hickory, St. Clair, Mo.	Osceola	75.8
Ionia, Montcalm, Mich.	Greenville	80.6	Parmer, Tex.	Bovena	85.4
Richland, Ohio	Mansfield [1]	74.8	Los Angeles (part), Calif.	Los Angeles'	62.4
Cheboygan, Emmet, Mich.	Cheboygan	78.5	Los Angeles (part), Calif.	Los Angeles'	69.5
New Madrid, Stoddard, Mo. . . .	Baxter	73.6			

[1] 1970 standard metropolitan statistical area containing the survey location. Some of the SMSA's have been redefined since 1970.

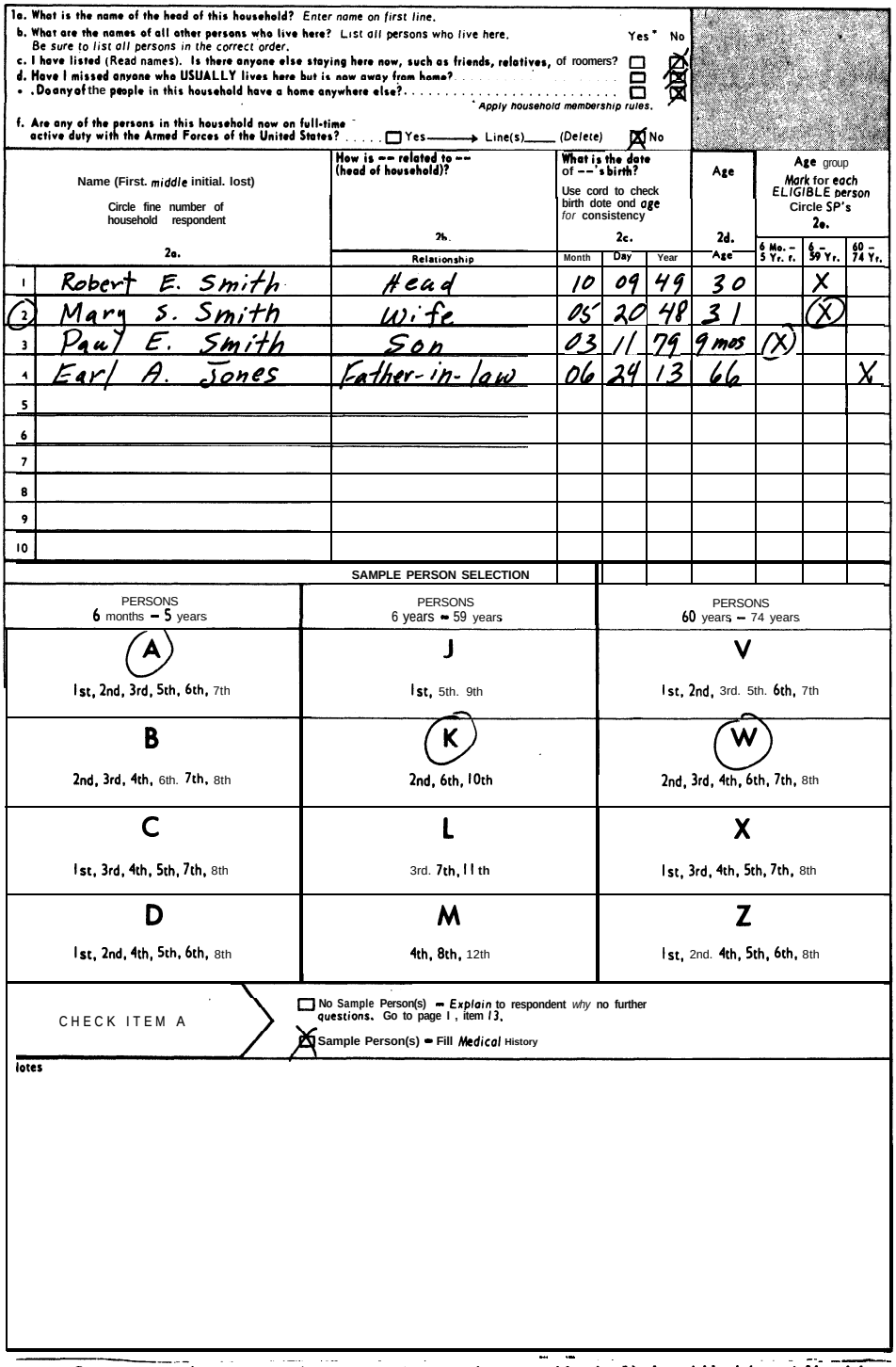
for examination had to be carefully controlled. A sequential sampling procedure known as "Perkins' Stop Rule" was used to insure that the number of persons selected in each PSU was within 15 of the expected number of sample persons. Perkins' Stop Rule, as described in a Bureau of the Census publication,[2 4] is an unbiased procedure for determining both the number of reserve segments to use in each PSU and when to stop interviewing sample persons within selected households. Since the expected number of persons in each PSU is between 3 15 and 585, the stop rule also insures that the actual number of sample persons in each PSU is between 300 and 600. For NHANES II, the number of sample persons ranged from 306 to 598 with an average of 334 per PSU.

Selection of sample persons

After the sample segments had been identified and assigned to interviewers, a sample of persons to be examined from individual households was selected. The sample was selected so that young and old age groups were oversampled and so that approximately one person was selected per household. The Bureau of the Census evaluated a number of alternative subsampling schemes within the household with respect to these objectives. The subsampling procedure that best satisfied both of these survey objectives was one that selected 3 out of every 4 persons who were 6 months through 5 years of age or 60 years through 74 years of age and 1 out of every 4 persons who were 6 through 59 years. The sample person selection sheet is shown in figure 2.

Once in the household, the interviewer listed everyone who lived in the household in a specified order. The number of persons within each age group was indicated, and letter codes were used to select persons from each of the three age groups for the sample. The letters used to sample persons from each age group are shown in figure 2. After a random start, 64 three-letter combinations were systematically

assigned to the household questionnaires for each PSU in the Bureau of the Census regional office. Three letters were circled on each questionnaire before it was assigned to an interviewer. For example, suppose that the letters "A," "K," and "W" were circled on the household questionnaire for a family of four: one baby 9 months old, two adults of ages 30 and 3 1, and one adult aged 66. The number of persons in each of the three age groups (see figure 2) is 1, 2, and 1, respectively. The letters "A," "K," and "W" indicate that the interviewer should select the first person in the age group 6 months to 5 years, the second person listed in the 6-59 years age group, and the second person in the 60-74 years age group, as sample persons. In the example, since there was no second person listed in the 60-74 years age group, the 9-month-old son and the 31-year-old wife were selected as sample persons for the examination.



1a. What is the name of the head of this household? *Enter name on first line.*
b. What are the names of all other persons who live here? List all persons who live here. Be sure to list all persons in the correct order. — Yes* No
c. I have listed (Read names). Is there anyone else staying here now, such as friends, relatives, of roomers? ☐ ☒
d. Have I missed anyone who USUALLY lives here but is now away from home? ☐ ☒
e. Do any of the people in this household have a home anywhere else? ☐ ☒
*Apply household membership rules.
f. Are any of the persons in this household now on full-time active duty with the Armed Forces of the United States? ☐ Yes → Line(s)___ (Delete) ☒ No

	Name (First. middle initial. lost) Circle fine number of household respondent 2a.	How is -- related to -- (head of household)? 2b. Relationship	What is the date of --'s birth? Use cord to check birth dote ond age for consistency 2c. Month	Day	Year	Age 2d. Age	Age group Mark for each ELIGIBLE person Circle SP's 2e. 6 Mo. – 5 Yr. r.	6 – 59 Yr.	60 – 74 Yr.
1	Robert E. Smith	Head	10	09	49	30		X	
(2)	Mary S. Smith	Wife	05	20	48	31		(X)	
3	Paul E. Smith	Son	03	11	79	9 mos	(X)		
4	Earl A. Jones	Father-in-law	06	24	13	66			X
5									
6									
7									
8									
9									
10									

SAMPLE PERSON SELECTION

PERSONS 6 months – 5 years	PERSONS 6 years – 59 years	PERSONS 60 years – 74 years
(A) 1st, 2nd, 3rd, 5th, 6th, 7th	J 1st, 5th. 9th	V 1st, 2nd, 3rd. 5th. 6th, 7th
B 2nd, 3rd, 4th, 6th. 7th, 8th	(K) 2nd, 6th, 10th	(W) 2nd, 3rd, 4th, 6th, 7th, 8th
C 1st, 3rd, 4th, 5th, 7th, 8th	L 3rd. 7th, 11 th	X 1st, 3rd, 4th, 5th, 7th, 8th
D 1st, 2nd, 4th, 5th, 6th, 8th	M 4th, 8th, 12th	Z 1st, 2nd. 4th, 5th, 6th, 8th

CHECK ITEM A
☐ No Sample Person(s) – *Explain* to respondent *why* no further questions. Go to page 1, item 13.
☒ Sample Person(s) – Fill *Medical* History

lotes

Figure 2. An example of a sample person selection sheet used in the National Health and Nutrition Examination Survey, 1976-80

Operational plan

Stand sequencing and scheduling

As in previous cycles of NHES and NHANES, the scheduling of stands (examination locations) for NHANES II was arranged so that the North was avoided in winter. This was done because of operational problems that would otherwise have resulted. To the extent that any of the items of data collected by the survey were subject to seasonal variation, this procedure may have resulted in some bias, but since the survey was designed more to measure the prevalence of chronic conditions rather than acute manifestations of conditions, seasonal variation was not considered to be a major factor.

Another important consideration in the sequencing of stands was economy in operation. Efforts were made to insure the minimum amount of travel by sequencing examination locations with regard to geographic proximity. At each location, the regular procedure involved the following sequence of advance arrangements: U.S. Bureau of the Census interviewing in the household, mobile exam center setup, dry-run examinations, and, finally, follow-back with sample persons by Health Examination Representatives when indicated, and regular examinations of the sample persons. The number of weeks allotted for examinations was dependent upon the expected sample size at a particular stand but varied between 4 and 6 weeks.

Advance contacts and logistics

Before household interviewing could begin in a sample area, contacts with professionals and the public and logistical arrangements were necessary. It was the policy of the survey to contact the Public Health Service representatives in the Department of Health and Human Services (formerly the Department of Health, Education, and Welfare) regional offices, the State and local health authorities, and the medical, dental, and osteopathic professional organizations in the States and communities. This was done to acquaint them with the NHANES objectives and methods of operation, including the local schedule of operations. School officials were also notified because of the necessity of requesting release from school for the examination of school children. This notification usually consisted of a letter announcing the survey, the local areas to be sampled, and the dates of survey operations, along with a brochure describing the survey, mailed 2 months before examinations were scheduled to begin. The letters to local health authorities included a request to provide NHANES with a listing of local and State health agencies and clinics to which NHANES examinees who did not have current medical resources and who required medical care could be referred, or to which a report of the examination findings could be sent. Personal visits by NHANES medical staff were made to any health agencies or societies requesting them.

A general news release explaining the program was prepared for each sample area and distributed to local news media. The release was timed to coincide with the start of the Bureau of the Census interviewing. As a result, local newspapers at most of the locations published items concerning the program. Special efforts were also made to obtain television and radio publicity for the survey. Any pictures taken for these efforts used NHANES staff as subjects, because pictures of examinees would have involved a loss of confidentiality. Sample households with known addresses were sent an "advance" letter by the Bureau of the Census several days before interviewing began. This letter informed the household members that a Bureau of the Census interviewer would call at their home within the next few days in connection with a survey being conducted in the area by the Public Health Service.

Six to eight weeks before the start of examinations at a particular location, a member of the NHANES field staff, the Field Operations Manager, visited the sample area to make physical arrangements for the mobile examination center and the administrative

offices, to meet personally with local health and school officials, and to initiate the many logistical actions required for the survey. Selection of a site for the mobile examination center and arrangements for electricity, water, sewerage, telephone, and transportation services were also made on this initial visit to the area.

Household interviewing and appointment process

Trained Bureau of the Census personnel conducted the household interviews to obtain household composition, demographic, and other data. At this initial visit the census interviewer determined which members of the household were to be selected for inclusion in the sample. The census interviewer explained the survey, asked a series of medical history questions of the prospective examinees, and made appointments for the selected sample persons willing to come in for the examination. As an incentive to participate in the examination, the sample persons were told that they would receive $20 for any inconvenience caused them because of their participation. The census interviewer also obtained written consent for the examination of minors and written authorization to obtain additional information from the records of physicians, hospitals, schools, and State registry offices. The census interviewer informed sample persons that reports of significant findings would be sent to their physicians or clinics if they so desired.

An individual who did not make an appointment at the time of the visit by the census interviewer was subsequently visited by a Health Examination Representative, who explained the program more fully, using photographs and a film strip. The Health Examination Representative answered any questions about how the sample was selected or the examination conducted and about what was included in the examination. Points that were stressed included personal benefit to be derived from the examination, contributions to medical research, and civic pride. In addition, it was stressed to sample persons that they were statistically chosen for the survey and no one else could be substituted for them. By carefully explaining details of the examination, the representative attempted to allay any fears or anxieties about it. This additional effort resulted in scheduling for examination many of the persons from whom the census interviewer had been unable to obtain appointments. The typical weekly examination schedule called for five morning sessions (including Saturday), three afternoon sessions (including Saturday), and two evening sessions. Individuals receiving the glucose tolerance test were scheduled for the morning sessions only. Sample persons could elect to drive themselves to the examination center, but use of a taxi for which arrangements had been made was encouraged. Transportation costs were paid by NHANES under either arrangement. Appointments for persons who for one reason or another had canceled or broken their appointments or who had not been available for taxi pickup at the scheduled time were rescheduled if possible. Any necessary rescheduling was accomplished by the health representative as soon as possible, preferably the same day, a policy that helped reinforce in the sample persons' minds the importance placed on their participation.

Examination center and staff

As in the previous examination programs, examinations were carried out in specially designed mobile examination centers (figure 3), which were moved from location to location in a predetermined fashion so that a sample of the civilian noninstitutionalized population was administered a standardized set of questions, examinations, and laboratory tests in comparable settings by a fully trained staff. Each mobile examination center consisted of three trailers, each 45 feet long and 8 feet wide. The sets of trailers constructed for NHANES I had been refitted with some interior modifications and used for NHANES II. They were set up side by side on a level hard surface area and connected by enclosed passageways. The trailers themselves were then further leveled to enable connection of the plumbing and proper alinement of the passageways. Heating and air-conditioning units

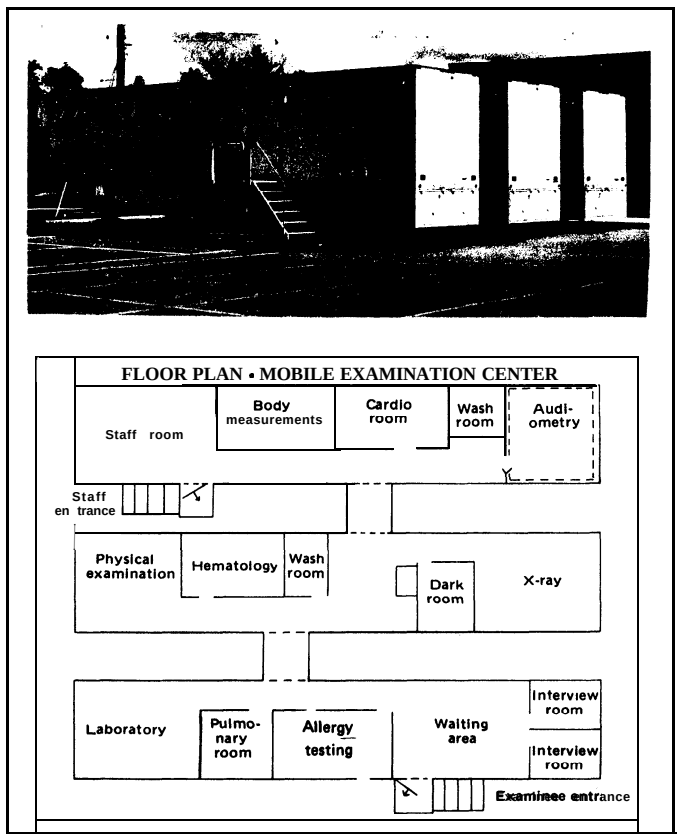


Figure 3. Mobile examination center

helped provide a standardized environment in which to conduct the examinations and perform laboratory procedures.

For NHANES II the trailer setup was as follows: The first trailer contained the waiting room where the sample persons were checked in by a coordinator. The coordinator's main function was to assign the examinees to the staff members conducting different parts of the examination in such a way as to minimize the examinees' total waiting time. To the side of the waiting room were two small rooms used for dietary interviews. Another slightly larger room in this trailer was used for administering the allergy test and conducting health interviews. A laboratory was equipped with a Coulter Counter, a hemoglobinometer, an incubator, a microhematocrit centrifuge and reader, a centrifuge, a refrigerator and freezer, a microscope, and a laminar flow table. The room where respiratory testing was done was located next to the laboratory and contained a spirometer, a two-channel paper recorder, and an oscilloscope. The spirome ter was connected to a Marquette electrocardiogram recorder located in the third trailer.

The second trailer had an X-ray room containing an X-ray machine, reciprocating buckey, and table. This room was used for chest, back, and neck X-rays. Adjoining the X-ray room was a dark room. An X-omat for developing X-ray film automatically was in an open space adjacent to the dark room. The walls of the open space contained X-ray viewing boxes. The second trailer also contained one of the two washrooms used for dressing and obtaining urine specimens. In the second trailer there were two other rooms. One of these rooms contained an examining table and a mercury sphygmomanometer, and the other a table and equipment for drawing blood.

The third trailer contained a soundproof room used for hearing tests. At test frequencies, the background noise level was below 35 decibels relative to American Standards Association audiometric zero (National Bureau of Standards). This room contained an audiometer with masking capability and earphones for pure-tone audiometry. It also contained a Revox tape deck, a condenser microphone, and a playback machine for the Stephens Oral Language Screening Test. Adjoining the audiometry room was a washroom. Another room contained the Marquette electrocardiogram recorder and a table. Electrocardiograms as well as spirometries were recorded on tape there. The final examination room was the body-measurement room. It contained a large and very accurate weight scale, a set of calibration weights, a device for measuring heights, an examining table for measuring sitting heights, and a variety of anthropometric instruments. The third trailer also included a staff room. There was storage space both within and under the trailers.

The field staff necessary to carry out the operation of the survey consisted of three groups. The first one was the team of census interviewers and their supervisor. The second group consisted of administrative staff and Health Examination Representatives. The usual complement was a field operations manager, field management assistant, one or two local part-time employees, and five Health Examination Representatives. The third group was the examining staff, operating within the mobile examination center, consisting of a physician, a nurse, two dietary interviewers, three health technicians, two laboratory technicians, and a coordinator. Everyone on the examining staff had been thoroughly trained to conduct the standardized procedures. All the field staff except the physician were civil service employees; the physicians were employed on long-term personal services contracts. The administrative staff was responsible for all procedures involved in processing examinees prior to their entry in the exam center. The health technicians conducted most of the testing, including taking X-rays, electrocardiograms, body measurements, and spirometries; and audiometry, the allergy exam, and the administration of questionnaires. The laboratory technicians performed all the laboratory work that had to be done on site, including preparation of blood and urine specimens for shipment. The nurse was mainly occupied with drawing blood.

Examination process and medical reports

Each examinee was assigned to whatever examiner happened to be free at the time. However, certain restrictions were built into the examination. For example, since oral glucose intake induces changes in electrocardiogram patterns, the electrocardiogram had to be done before the glucose tolerance test. Similarly, because of a possibility that an occasional allergy test might affect pulmonary function, spirometry was done before the allergy test. The requirement of a concentrated urine for microscopic examination necessitated urine collection before the glucose tolerance test. It was also desirable to expedite blood samples in order not to stretch out the laboratory work day unduly.

A report of medical findings, including laboratory results, was sent to the examinee's personal physician or other source of medical care designated by the examinee. Any condition that in the opinion of the examining physician required immediate medical attention was immediately reported by phone to the personal physician or medical care facility designated by the examinee. A chest X-ray and a copy of the electrocardiogram were sent with the report. Some findings were not included on the regular report because they were not available at the time the report was mailed. For example, the back and neck X-rays were read by three rheumatologists at a later

time, so the results of their assessment were not immediately available. If some degree of pathology was found, these results were reported to the examinee's source of medical care when they became available.

Quality control

Measurement error, an important concern in any survey, was even more so in one as complex as NHANES. Minimizing measurement error required a considerable amount of careful effort. Before the collection of data, it was necessary to define precisely what was to be measured and to describe clearly how the measurements were to be taken. Before the survey began, the NHANES staff, assisted by advisers, delineated the necessary definitions and instructions, which were incorporated into a staff instruction manual covering all procedures. Intensive specialized training was given to all staff members in the specific procedures performed by them in the survey. Periodic retraining was provided in order to achieve consistency over the entire survey period.

An important requirement for quality control is the proper calibration of instruments. Among the instruments calibrated were the spirometers, audiometers, earphones, electrocardiogram recorders, speech recording equipment, laboratory equipment, scales, and body measurement equipment. The instruments were calibrated at different intervals, that is, with each examination, daily, weekly, or before the beginning of each stand location. Calibration of a particular instrument might be done in more than one fashion: for example, the spirometer was calibrated both electronically and pneumatically. Calibration of the audiometers was done both in the field and also more thoroughly at a central laboratory to which they were sent on a rotating basis.

Preventive maintenance was also quite important in keeping the equipment running properly. Prompt repair of the instruments was essential in order to avoid excessive loss of data. The staff biomedical engineer was invaluable in providing for the proper functioning of the equipment. The engineer also played a major role in designing the equipment setup, arranging for its installation, and working out any difficulties that developed in the system.

Several methods were used to obtain adequate quality control. For certain procedures such as those involved with height, weight, X-rays, spirometry, electrocardiographs, and speech, "hard documents" were produced, the quality of which could be evaluated and the significance assessed at a central location. For example, X-ray films were evaluated for readability, interpreted by expert readers, and subjected to replicate readings. Replicates involved having the same part of the examination, for example, body measurements, performed independently at different times by two observers. Another more experienced observer, such as a supervisory technician, could be used as the standard. Replicates were a powerful tool in demonstrating interobserver differences. For biochemistry tests, replicates took the form of a duplicate pair of specimens being sent, one of them under a "dummy" number, to the same laboratory.

Another method of quality control in the evaluation of the different procedures was to compare mean values and frequency distributions by stand location and by individual observers. If there was an unusual set of results in one location, this could be investigated. Similarly, if one of the technicians consistently obtained higher or lower values than the others, this could also be investigated.

All recording forms were reviewed by the examining staff before the examinees left in order to detect errors such as omission of data. Samples of the forms were checked again, more thoroughly, at headquarters. If the staff was making a systematic error, it could be detected, and proper remedial action taken.

The performance of some of the field staff could also be checked by tape recordings. At every location, each dietary interviewer recorded two complete interviews on randomly selected subjects. The recorded interviews were evaluated later at headquarters for adherence to established procedures.

Retention of a reserve container of serum provided an opportunity for repeating and possibly correcting biochemical assessments. If an error was detected in the processing of a batch of serum, or an unusual value was observed, a reserve supply of serum was available for many sample persons to provide

analytical results, either to replace the unsatisfactory data or to verify the unusual value.

In all laboratories to which specimens had been sent for analysis, standard quality control procedures were used. These included blind quality control specimens from known control pools. For quality control samples, several statistics were produced, including trend lines, plots, means, and standard deviations. Known test materials were used; and all reagents, calibrations, and the like were logged. Determinations were repeated for specimens showing extreme values.

A useful procedure for quality control of laboratory data was implemented in 1978. This procedure was as follows: from a frequency distribution of values, the value closest to the 75th percentile was selected. For example, suppose fasting blood glucose data showed .246 of the population with values of 98 or over. In a run of 13 specimens, if one were to find 9 specimens with values of 98 or over, the chances of this happening according to the cumulative binomial distribution is .0009. This is quite unlikely, and the matter would be carefully looked into.

A similar procedure was followed with a low cutoff value at or near the 25th percentile. In fact, the glucose determinations showed only four runs with a probability of less than .01 out of a total of 240 (including both high and low cutoffs). Since on a chance basis five runs might have been expected, this suggested that the procedure was in control during this period.

A major effort was made in all NHES surveys to control and reduce the magnitude of the nonresponse. If the nonrespondents in a survey differ from respondents with respect to the measurements being made, the survey results will be biased. The potential for a nonresponse bias is much greater when response rates are low. A number of steps taken to reduce nonresponse in NHANES II have already been discussed. The size of the primary sampling units was reduced primarily to decrease the logistical problems of sample persons coming to the mobile examination centers. Much of the advance publicity was directed to improving the overall response rate in a community. The extra efforts of the Health Examination Representatives to schedule appointments and to arrange transportation to the Mobile Examination Centers were very important in the achievement of acceptable response rates. Several reports have been written that discuss cooperation in National Health Examination Surveys and the factors related to response.[25-28]

The response rates for both NHANES I and NHANES II were between 70 and 75 percent—lower than the response rates obtained in previous NCHS examination surveys. Concern over the lower response rate in the NHANES programs resulted in two studies being conducted to determine the effect of paying respondents to participate in NHANES. The first study was conducted in San Antonio, Tex., in 1972. The findings from that study showed that the offer of a payment of $10 to sample persons to participate in NHANES significantly improved the response rate.[29] As a result of that study, a payment of $10 was routinely offered to all sample persons for participating in the examination. A second study on the effects of remuneration to sample persons was conducted in two locations in 1978. A slightly more elaborate design was used to study the relationship between the amount of the payment offered sample persons to participate in the examination and the number of sample persons in the household. The results showed that the total amount of remuneration in a household had a significant positive effect on response.[30]

Pilot testing

Pilot testing was much shorter in NHANES II than in NHANES I. The first pilot test was in Atlanta, Ga., from November 17 through December 19, 1975. Center for Disease Control personnel and their families were the examinees. The location was next to the Center for Disease Control in order to have ready access to assistance in carrying out the complicated laboratory procedures. The second pretest was held in another part of the Atlanta metropolitan area from January 21 through February 12, 1976, using a population sample of the area selected by the U.S. Bureau of the Census. The NHANES II survey began examinations at its first regular location in Miami, Fla., on February 19, 1976.

Plans for analysis and publication of data

Producing reports of findings involves the following steps:

- Sometimes, as with X-rays, there must be further processing to produce the data unit that is to be tabulated. This type of processing is done under contract concurrently with data collection if resources permit.
- Data must be reduced to machine-readable form.
- Data must be edited and validated.
- Data must be analyzed.
- Reports must be written, edited, and printed.

In addition, before any analysis can take place, the sampling weights, that is, the designated number of people a sample person represents in the population, must be determined. For selected measures, imputation procedures for item nonresponse must be developed and reviewed by consultants.

The procedure used before 1977 was to allot a certain number of years after completion of a survey in which NHANES analytical staff could publish series reports based on the survey. After that, a set of computer tapes containing the edited data was prepared for the use of outside investigators in universities, other government agencies, and so forth. The procedure used since 1977 has been to release for outside use all completely edited, validated, and documented tapes, whether or not NCHS has published reports based on the data. It was planned to have a series of edited tapes containing the NHANES II data available for purchase from 1 to 2 years after completion of the NHANES II survey.

In general, descriptive, analytical, and methodological reports are published by the National Center for Health Statistics in *Vital and Health Statistics,* series 1, 2, and 11. To a lesser extent, information is made available in journal articles and in papers presented at professional meetings. The reports are written by NCHS staff, staff of Federal agencies collaborating on data collection, and experts who are not Federal employees. In addition, to expedite publication of more detailed analyses of selected topics covered in the data collection, NCHS plans to support to a limited extent competitively awarded contractual analyses and report-writing efforts. A limited number of special tabulations and analyses are furnished on request to various individuals and groups both inside and outside the Government.

Procedures and methods manuals are made available upon request about a year after the surveys are completed or concurrently with the release of microdata tapes. In this way the data can be evaluated, and the methodology employed by NCHS in NHANES can be utilized by others.

References

[1]National Center for Health Statistics: Plan and initial program of the Health Examination Survey. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 1-No. 4. Public Health Service. Washington. U.S. Government Printing Office, July 1965.

[2]National Center for Health Statistics: Plan, operation, and response results of a program of children's examinations. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 1-No. 5. Public Health Service. Washington. U.S. Government Printing Office, Oct. 1967.

[3]National Center for Health Statistics: Plan and operation of a Health Examination Survey of U.S. youths 12-17 years of age. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 1-No. 8. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1969.

[4]National Center for Health Statistics: Plan and operation of the Health and Nutrition Examination Survey, United States, 1971-1973, by H. W. Miller. *Vital and Health Statistics.* Series 1-Nos. 10a and 10b. DHEW Pub. No. (PHS) 79-1310. Public Health Service. Washington. U.S. Government Printing Office, Jan. 1977.

[5]National Center for Health Statistics: Plan and operation of the HANES I Augmentation Survey of adults 25-74 years, United States, 1974-1975, by A. Engel et *al. Vital and Health Statistics.* Series 1-No. 14. DHEW Pub. No. (PHS) 78-1314. Public Health Service. Washington. U.S. Government Printing Office, June 1978.

[6]National Center for Health Statistics: Current listing and topical index to the Vital and Health Statistics Series, 1962-1978. DHEW Pub. No. (PHS) 79-1301. Public Health Service. Washington. U.S. Government Printing Office, Apr. 1979.

[7]National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22151, telephone (703) 557-4650.

[8]McDowell, A. J.: Health examination surveys – in theory and application, in P. Armitage, ed., *National Health Survey Systems in the European Economic Community.* Proceedings of a conference held in Brussels on Oct. 6-8, 1975. Commission of the European Communities, EUR 5747e, 1977.

[9]National Center for Health Statistics: *Eighth Revision International Classi'cation of Diseases, Adapted for Use in the United States.* PHS Pub. No. 1693. Public Health Service. Washington. U.S. Government Printing Office, 1967.

[10]National Center for Health Statistics: Glucose tolerance of adults, United States, 1960-1962, by T. Gordon. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 11-No. 2. Public Health Service. Washington. U.S. Government Printing Office, May 1964.

[11]National Center for Health Statistics: Blood glucose levels in adults, United States, 1960-1962, by C. C. Garst. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 11-No. 18. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1966.

[12]National Center for Health Statistics: Blood pressure as it relates to physique, blood glucose, and serum cholesterol, United States, 1960-1962, by C. duV. Florey and R. M. Acheson. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 1 1-No. 34. Public Health Service. Washington. U.S. Government Printing Office, Oct. 1969.

[13]National Center for Health Statistics: Selected examination findings related to periodontal disease among adults, United States, 1960-1962, by J. E. Kelly and A. Engel. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 11-No. 33. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1969.

[14]National Center for Health Statistics: The one-hour oral glucose tolerance test. *Vital and Health Statistics. Series* 2-No. 3. DHEW Pub. No. (HRA) 74-1271. Health Resources Administration. Washington. U.S. Government Printing Office, Aug. 1973. Reprinted.

[15]Nil, A. A. J.: A population study of urinary trace disease II. *Acta. Med. Scand.* 194: 529-534, 1973.

[16]Burrows, B., Leborwitz, M., and Barbee, R. A.: Respiratory Disorders and Allergy Skin Test Reactions. *Ann. Intern. Med.* 84(2): 134-139, Feb. 1976.

[17]Stephens, I.: *Stephens Oral Language Screening Test.* Interim Publishing Co., Dec. 1977.

[18]National Center for Health Statistics: Sample design and estimation procedures for a National Health Examination Survey of children, by E. E. Bryant, J. T. Baird, and H. W. Miller. *Vital and Health Statistics. Series* 2-No. 43. DHEW Pub. No. (HSM) 72-1005. Health Services and Mental Health Administration. Washington. U.S. Government Printing Office, Aug. 1971.

[19]U.S. National Health Survey: The statistical design of the Health Household-Interview Survey. *Health Statistics.* PHS Pub. No. 584-A2. Public Health Service. Washington. U.S. Government Printing Office, July 1958.

[20]U.S. Bureau of the Census: *The Current Population Survey: Design and Methodology.* Technical Paper 40. U.S. Department of Commerce. Washington. U.S. Government Printing Office, Jan. 1978.

[21]Goodman, R., and Kish, L.: Controlled selection—a technique in probability sampling. *J. Am. Statis. A.* 45(251):350-373, Sept. 1950.

[22]Kish, L.: *Survey Sampling.* New York. John Wiley and Sons, Inc., 1965.

[23]U.S. Bureau of the Census: Determination of Poverty/Nonpoverty Strata and Optimal Sample Allocation, HES Cycle IV. Memorandum from Paul Tomlin to Gary Shapiro, Oct. 26, 1972.

[24]U.S. Bureau of the Census: Technical Notes No. 3. Washington, D.C. 1970.

[25]U.S. National Health Survey: Attitudes toward co-operation in a Health Examination Survey. *Health Statistics.* PHS Pub. No. 584-Series D-No. 6. Public Health Service. Washington. U.S. Government Printing Office, July 1961.

[26]National Center for Health Statistics: Cooperation in Health Examination Surveys. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No. 9. Public Health Service. Washington. U.S. Government Printing Office, July 1965.

[27]National Center for Health Statistics: Factors related to response in a Health Examination Survey, United States, 1960-1962, by H. Miller and P. Williams. *Vital and Health Statistics.* PHS Pub. No. 1000-Series 2-No. 36. Public Health Service. Washington. U.S. Government Printing Office, Aug. 1969.

[28]National Center for Health Statistics: Quality control in a National Health Examination Survey, by W. L. Schaible. *Vital and Health Statistics.* Series 2-No. 44. DHEW Pub. No. (HSM) 72-1023. Health Services and Mental Health Administration. Washington. U.S. Government Printing Office, Feb. 1972.

[29]National Center for Health Statistics: A study of the effect of remuneration upon response in the Health and Nutrition Examination Survey, United States, by E. E. Bryant, M. G. Kovar, and H. Miller. *Vital and Health Statistics.* Series 2-No. 67. DHEW Pub. No. (HRA) 76-1341. Health Resources Administration. Washington. U.S. Government Printing Office, Oct. 1975.

[30]Findley, J. S., National Center for Health Statistics, and Schaible, W. L., U.S. Bureau of Labor Statistics: A study of the effect of increased remuneration on response in a Health and Nutrition Examination Survey. Paper presented at the American Statistical Association Meeting, Survey Research Methods Section. Houston, Aug. 1980.

Appendixes

Contents

Appendix I. Examination components by age groups

6 months-2 years	*3-11 years*	*12-19 years*	*20-74 years (bile acids test group)*	*20-74 years (glucose tolerance test group)*
. . .	Urine: 6-11 years only	Urine	Urine	Urine
Body measurements	Body measurements	Body measurements	Body measurements	Body measurements
Physician exam	Physician exam	Physician exam	Physician exam	Physician exam
Ven ipunctu re	Venipuncture	Venipuncture	Venipuncture	Venipuncture
Dietary interview	Dietary interview	Dietary interview	Dietary interview	Dietary interview
. . .	Audiometry: 4-11 years only	Audiometry	. . .	. . .
. . .	Speech test: 4-6 years only	. . .	. . .	. . .
. . .	Allergy test: 6-11 years only	Al lergy test	Allergy test	Allergy test
. . .	Spirometry: 6-11 years only	Spirometry	Spirometry: 20-24 years only	Spirometry : 20-24 years only
. . .	. . .	. . .	Electrocardiogram: 25-74 years only	Electrocardiogram: 25-74 years only
. . .	. . .	. . .	Chest and neck X-rays: 25-74 years only	Chest and neck X-rays: 25-74 years only
. . .	. . .	. . .	Back X-ray: 25-74 years for men; 50-74 years for women	Back X-ray: 25-74 years for men; 50-74 years for women
. . .	. . .	. . .	. . . .	Glucose tolerance test
. . .	. . .	. . .	Bile acids test: 35-74 years only	. . .

Appendix II. Blood and urine assessments by specimen types and age groups

6 months to 2 years	*3-11 years*	*12-19 years*	*20-74 years (bile acids group)*[1]	*20-74 years (glucose tolerance test group)*
		WHOLE BLOOD		
Lead: all examinees	Lead: all examinees of 3-6 years; odd-numbered examinees of 7-11 years	Lead: odd-numbered examinees	Lead: odd-numbered examinees	Lead: odd-numbered examinees
	Carboxyhemoglobin: even-numbered examinees	Carboxyhemoglobin: even-numbered examinees	Carboxyhemoglobin: even-numbered examinees	Carboxyhemoglobin: even-numbered examinees
Protoporphyrin	Protoporphyrin	Protoporphyrin	Protoporphyrin	Protoporphyrin
[2]Red blood cell folate	[2]Red blood cell folate	[2]Red blood cell folate	[2]Red blood cell folate	[2]Red blood cell folate
		SERUM		
. . .	[2]Ferritin	[2]Ferritin	[2]Ferritin	[2]Ferritin
. . .	. . .	. . .	Bile acids: 35-74 years only	. . .
. . .	. . .	. . .	Cholesterol	Cholesterol
. . .	. . .	. . .	. . .	Triglyceride
. . .	. . .	. . .	. . .	High density lipoprotein
. . .	. . .	Pesticides: even-numbered examinees	Pesticides: all examinees	. . .
. . .	. . .	Creatinine	Creatinine	Creatinine
. . .	. . .	Syphilis	Syphilis	Syphilis
Iron	Iron	Iron	Iron	Iron
Total iron binding capacity	Total iron binding capacity	Total iron binding capacity	Total iron binding capacity	Total iron binding capacity
[2]Folate	[2]Folate	[2]Folate	[2]Folate	[2]Folate
[2]B_{12}	[2]B_{12}	[2]B_{12}	[2]B_{12}	[2]B_{12}
. . .	Vitamin [illegible]	. . .	. . .	. . .
. . .	Copper	Copper	Copper	Copper
. . .	Zinc	Zinc	Zinc	Zinc
. . .	Albumin	Albumin	Albumin	Albumin
. . .	. . .	. . .	. . .	Glucose tolerance 75 gram load at 0-, 1-, and 2-hour intervals
. . .	Vitamin C	Vitamin C	Vitamin C	Vitamin C
		URINE		
. . .	N-Multistix: 6-11 years only	N-Multistix	N-Multistix	N-Multistix
. . .	. . .	Gonorrhea	Gonorrhea: 20-40 years only	Gonorrhea: 20-40 years for men; 20-24 years for women
. . .	. . .	. . .	. . .	Microscopy
. . .	. . .	. . .	. . .	Specific gravity
. . .	. . .	Pesticides	Pesticides	. . .

[1]Bilirubin, SGOT, and alkaline phosphatase performed only on those samples with elevated bile acids.
[2]Performed only on those samples with abnormal complete blood count, hemoglobin, hematocrit, or mean corpuscular volume.

Appendix III. Pesticide residue and **metabolite** determinations

Serum

Hexachlorobenzene
trans Nonachlor
DDT and Associated Analogs
alpha-BHC
gamma-BHC
beta-BHC
delta-BHC
Aldrin
Dieldrin
Endrin
Heptachlor
Heptachlor Epoxide
Oxychlordane
Mirex

Urine

alpha Monocarboxylic acid
Dicarboxylic acid
3,5,6-Trichloro-2-pyridinol
Isopropoxyphenol
Carbofuranphenol
3-Ketocarbofuran
Dicamba
2,4-D
Pentachlorophenol
para-Nitrophenol
alpha-Naphthol
DMTP
DETP
DMDTP
DEDTP
DMP
DEP
2,4,5-T
Silvex
2,4,5-Trichlorophenol

Appendix IV. National Center for Health Statistics and Center for Disease Control staff involved in the planning, development, and operation of NHANES II

National Center for Health Statistics

Division of Health Examination Statistics

Robert S. Murphy, Chief, Survey Planning and Development Branch
James Scanlon
Everette M. Collins
Evelyn Stanton
Dorothy Blodgett
Dale Hitchcock
Mary Margret Wilson
Connie Dresser
Arnold Engel
Helen Barbano

Statistical Methods Staff

E. Earl Bryant, Chief
James T. Massey, Mathematical Statistician

Division of Operations

Headquarters Staff

Henry Miller, Branch Chief, Health Examination Field Operations Branch
Philip Howley, Operations Manager
Thomas Makepeace, Assistant Operations Manager
David Larson, Biomedical Engineer
Jean Findlay, Survey Statistician
Paula Wallace, Statistical Clerk
Hilda Davis, Management Technician
Judy Gray, Management Assistant
Robert Benson, Clerical Assistant
Kenneth McDowell, Supervisory Health Technician
Brenda Lewis, Supervisory Medical Technologist
Penny Allen, Management Assistant
Charles Gallese, Operations Manager

Field Staff

Joseph Campagna, Field Operations Manager
Christine File, Field Operations Manager
John Aldrich, Field Operations Manager
Jay Anderson, Field Operations Manager
Jerry Coffman, Field Operations Manager
Althea Engle, Field Operations Manager
Eileen Kennedy, Field Operations Manager
Denis Hill, Field Operations Manager
Margaret Kelly, Field Management Assistant
Charlene Morton, Field Management Assistant
Anita Allen, Field Management Assistant
Holly Ferazzi, Field Management Assistant
Gary Warren, Field Management Assistant
Janet Warren, Field Management Assistant
Marie Abbott, Health Examination Representative
Dorothy Briggs, Health Examination Representative
Mary Colbert, Health Examination Representative
Laurel McDowell, Health Examination Representative
Martha Peters, Health Examination Representative
Linda Fant, Health Examination Representative
Barbara Greene, Health Examination Representative
Alfonso Small, Health Examination Representative
Paul Terr, Health Examination Representative
Doris Thompson, Health Examination Representative
Linda Day, Health Examination Representative
Alma Eubank, Health Examination Representative
Patricia Warchol, Health Examination Representative
Esther Allen, Field Operations Assistant
Carolyn Petty, Field Operations Assistant
Elizabeth Hill, Dietary Coordinator
Janet Williams, Dietary Coordinator
Ruth Griles, Dietary Coordinator
Lorraine McCullen, Dietary Coordinator
Lori Hornfeck, Dietary Interviewer
Marie Mitchell, Dietary Interviewer
Connie Foster, Dietary Interviewer
Rebecca Wilson, Dietary Interviewer
Dollie Kendrick, Laboratory Technician
James McGuffey, Laboratory Technician
Patricia Dowling, Laboratory Technician
Ronette Hunt, Laboratory Technician
William Johnston, Laboratory Technician
Wilda Andress, Nurse
Judy McKnight, Nurse
Kevin Aubin, Health Technician
Roberta Brady, Health Technician

Vondell Clark, Health Technician
Charles Johnston, Health Technician
Charlotte Leahy, Health Technician
David Edwards, Health Technician
Meris Emery, Health Technician
Jane Robinson, Health Technician
Jerome Waite, Health Technician
Richard Driessel, Physician
William Dodd, Physician
Harold Holleran, Physician
Lindsey Kirkham, Physician
Verla McAnelly, Physician
John Shirey, Physician
Robert Wildt, Physician

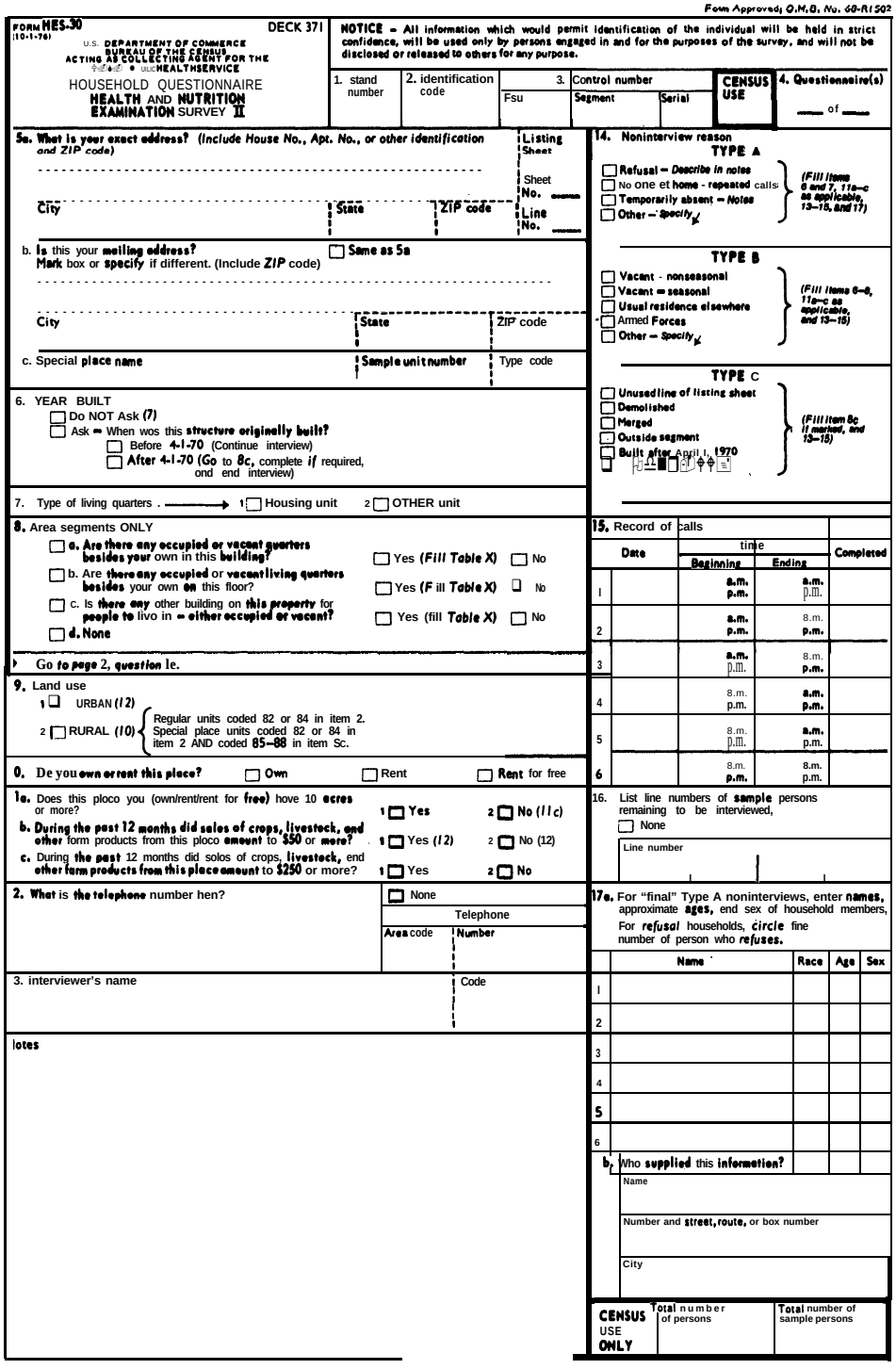
NOTE: This appendix shows the organization and staff as of the time of the survey

Center for Disease Control

David Bayse, Director, Clinical Chemistry Division
Jane Neese, Chief, Nutritional Biochemistry Branch
Richard Carter, Chief, Nutritional Biochemistry Research and Reference Section
Wayman Turner, Chief, Nutritional Biochemistry Technical Services Section
Elaine Gunter, Supervisory Medical Technologist
Onno van Assendelft, Chief, General Hematology Branch
Cornelia R. McGrath, NHANES Hematological Coordinator

Appendix V. Data collection forms for NHANES II

NHANES Household Questionnaire



Form Approved; O.M.B. No. 68-R1502

FORM HES-30 (10-1-76) DECK 371

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
PUBLIC HEALTH SERVICE
HOUSEHOLD QUESTIONNAIRE
HEALTH AND NUTRITION EXAMINATION SURVEY II

NOTICE - All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

1. stand number | 2. identification code | 3. Control number: Fsu | Segment | Serial | CENSUS USE | 4. Questionnaire(s) ___ of ___

5a. What is your exact address? (Include House No., Apt. No., or other identification and ZIP code)
City | State | ZIP code | Listing Sheet | Sheet No. | Line No.

b. Is this your mailing address? Mark box or specify if different. (Include ZIP code) ☐ Same as 5a
City | State | ZIP code

c. Special place name | Sample unit number | Type code

6. YEAR BUILT
☐ Do NOT Ask (7)
☐ Ask - When was this structure originally built?
☐ Before 4-1-70 (Continue interview)
☐ After 4-1-70 (Go to 8c, complete if required, and end interview)

7. Type of living quarters → 1 ☐ Housing unit 2 ☐ OTHER unit

8. Area segments ONLY
☐ a. Are there any occupied or vacant quarters besides your own in this building? ☐ Yes (Fill Table X) ☐ No
☐ b. Are there any occupied or vacant living quarters besides your own on this floor? ☐ Yes (Fill Table X) ☐ No
☐ c. Is there any other building on this property for people to live in - either occupied or vacant? ☐ Yes (fill Table X) ☐ No
☐ d. None

Go to page 2, question 1e.

9. Land use
1 ☐ URBAN (12)
2 ☐ RURAL (10) { Regular units coded 82 or 84 in item 2. Special place units coded 82 or 84 in item 2 AND coded 85-88 in item 5c.

10. Do you own or rent this place? ☐ Own ☐ Rent ☐ Rent for free

11a. Does this ploco you (own/rent/rent for free) hove 10 acres or more? 1 ☐ Yes 2 ☐ No (11c)
b. During the past 12 months did sales of crops, livestock, and other farm products from this ploco amount to $50 or more? 1 ☐ Yes (12) 2 ☐ No (12)
c. During the past 12 months did solos of crops, livestock, and other farm products from this place amount to $250 or more? 1 ☐ Yes 2 ☐ No

12. What is the telephone number hen? ☐ None
Telephone: Area code | Number

13. interviewer's name | Code

lotes

14. Noninterview reason
TYPE A (Fill items 6 and 7, 11a-c as applicable, 13-15, and 17)
☐ Refusal - Describe in notes
☐ No one et home - repeated calls
☐ Temporarily absent - Notes
☐ Other - Specify
TYPE B (Fill items 6-8, 11a-c as applicable, and 13-15)
☐ Vacant - nonseasonal
☐ Vacant - seasonal
☐ Usual residence elsewhere
☐ Armed Forces
☐ Other - Specify
TYPE C (Fill item 8c if marked, and 13-15)
☐ Unused line of listing sheet
☐ Demolished
☐ Merged
☐ Outside segment
☐ Built after April 1, 1970

15. Record of calls

	Date	Time Beginning	Time Ending	Completed
1		a.m. p.m.	a.m. p.m.	
2		a.m. p.m.	a.m. p.m.	
3		a.m. p.m.	a.m. p.m.	
4		a.m. p.m.	a.m. p.m.	
5		a.m. p.m.	a.m. p.m.	
6		a.m. p.m.	a.m. p.m.	

16. List line numbers of sample persons remaining to be interviewed,
☐ None
Line number

17a. For "final" Type A noninterviews, enter names, approximate ages, end sex of household members,
For refusal households, circle fine number of person who refuses.

	Name	Race	Age	Sex
1				
2				
3				
4				
5				
6				

b. Who supplied this information?
Name
Number and street, route, or box number
City

CENSUS USE ONLY | Total number of persons | Total number of sample persons

1a. What is the name of the head of this hourohold? Enter name on first line.

b. What are the names of all other persons who live here? List all persons who live here. Be sure to list all persons in the correct order.

c. I have listed (Read names). Is there anyone ● Iro staying hero now, such as friends, relatives, or roomers? Yes * ☐ No ☐

d. Have I missed anyone who USUALLY lives hero but is now away from home? ☐ ☐

e. Do any of the people in this household have a home anywhere else? ☐ ☐

*Apply household membership rules.

f. Are any of the persons in this household now on full-time active duty with tho Armed Forces of the United States? ☐ Yes ——→ Line(s)____ (Delete) ☐ No

	Name (First, middle initial, last) Circle line number of household respondent 2a.	now is -- related to -- (head of household)? 2b. Relationship	what is the date of --'s birth? Use cord to check birth dote ond age for consistency 2c. Month	Day	Year	Age 2d. Age	Age group Mark for each ELIGIBLE person Circle SP's 2e. 6 Mo. – 5 Yr.	6 – 59 Yr.	60 – 74 Yr.
1									
2		●							
3									
5									
6									
8									
9									
10									
		SAMPLE PERSON SELECTION							

PERSONS 6 months – 5 years	PERSONS 6 years – 59 years	PERSONS 60 years – 74 years
A 1st, 2nd, 3rd, 5th, 6th. 7th	**J** 1st, 5th. 9th	**V** 1st, 2nd, 3rd, 5th, 6th, 7th
B 2nd, 3rd, 4th, 6th. 7th. 8th	**K** 2nd, 6th, 10th	**W** 2nd, 3rd. 4th, 6th, 7th, 8th
C 1st, 3rd, 4th. 5th. 7th, 8th	**L** 3rd, 7th, 11th	**X** 1st, 3rd, 4th, 5th. 7th, 8th
D 1st, 2nd, 4th, 5th, 6th. 8th	**M** 4th. 8th, 12th	**Z** 1st, 2nd, 4th, 5th, 6th, 8th

CHECK ITEM A

☐ No Sample Person(s) – *Explain to respondent why no further questions. Go to page 1. item 13.*

☐ Sample Person(s) – *Fill Medical History*

Notes

↓ ~ PCM 2

FOR ARMED FORCES HEAD OF FAMILY, FILL ITEMS 1–9 ONLY AND GO TO PAGE 4.

NCHS USE ONLY (001)

CENSUS USE ONLY (002)

Item		
1. Line number (*Transcribe from page 2*)	1.	(003) _____ (HEAD OF FAMILY)
2. Date of birth (*Transcribe from page 2*)	2.	(004) Month (005) Day (006) Year
3. Age (*Transcribe from page 2*)	3.	(007) Months (008) Years
4. Sex	4.	(009) 1 ☐ Male 2 ☐ Female
5. Race	5.	(010) 1 ☐ White 2 ☐ Black 3 ☐ Other
6. In what State was -- born? *Enter the name of the State or foreign country.*	6.	(011) State or foreign country
7. Is -- *now married, widowed, divorced, separated, or never married? Mark one box*	7.	(012) 1 ☐ Under 17 2 ☐ Married 3 ☐ Widowed 4 ☐ Divorced 5 ☐ Separated 6 ☐ Never married
Please look at this card. *(Hand Card O)* 8. Which one of these groups BEST describes --'s national origin or ancestry?	8.	(013) *Enter precode*
If under 6 years, mark "None." 9a. What is the highest grade or year of regular school -- has ever attended?	9a.	(014) 0 ☐ None *(10)* 2 ☐ Elem. . . . . 1 2 3 4 5 6 7 8 3 ☐ High . . . . . 1 2 3 4 4 ☐ College . . . 1 2 3 4 5+
b. Did -- finish the -- grade (year)?	b.	(015) 1 ☐ Yes 2 ☐ No
ASK IF 17+; OTHERWISE GO TO NEXT SP OR QUESTION 14, PAGE 6. 10a. What was -- doing MOST of the past 12 months? (For males) Working or doing something else? (For females) Keeping house, working, or doing something else?	10a.	(016) 1 ☐ Working *(10a)* 2 ☐ Keeping house *(10c)* 3 ☐ Something else
b. What was -- doing?	b.	(017) 1 ☐ Layoff 2 ☐ Retired 3 ☐ Student 4 ☐ Ill 5 ☐ Staying home 6 ☐ Looking for work 7 ☐ Unable to work 0 ☐ Other – *Specify*_____
c. Did -- work at a job or business AT ANY TIME during the past THREE months?	c.	(018) 1 ☐ Yes 2 ☐ No *(11b)*
d. When -- was working, did he usually work full time or part time?	d.	(019) 1 ☐ Full time 2 ☐ Part-time
11a. Did -- work at any time last week or the week before not counting work around the house?	11a.	(020) 1 ☐ Yes *(12)* 2 ☐ No
b. Even though -- did not work during that time, does he have a job or business?	b.	(021) 1 ☐ Yes 2 ☐ No
c. Was he looking for work or on layoff from a job?	c.	(022) 1 ☐ Yes 2 ☐ No *(12)*
d. Which – looking for work or on layoff from a job?	d.	(023) 1 ☐ Looking 2 ☐ Layoff 3 ☐ Both
Ask for all persons with a "Yes" in 11a, b, or c. If "Yes" in 11c only, questions 12a through 12e apply to this person's LAST full-time civilian job. — 12a. For whom did -- work? *Name of company, business, organization, or other employer*	12a.	Employer
b. What kind of business or industry is this? *For example, TV and radio manufacturing, retail shoe store, State Labor Dept., farm*	b.	(024) Industry
c. What kind of work was -- doing? *For example, electrical engineer, stock clerk, typist, farmer*	c.	(025) Occupation
d. What were --'s most important activities or duties? *For example, types, keeps account books, files, sells cars, operates printing press, finishes concrete*	d.	Duties
Complete from entries in 12a–d; if not clear, ask: e. Was -- an employee of a **PRIVATE** company, business, or individual for wages, salary, or commission? . . . . . **P** -- a **FEDERAL** government employee? . . . . . **F** -- a **STATE** government employee? . . . . . **S** -- a **LOCAL** government employee? . . . . . **L** -- self-employed in **OWN** business, professional practice, or farm? If not a farm, ask: Is the business incorporated? Yes . . . . . **I** No (or farm) . . . . . **SE** -- working **WITHOUT PAY** in family business or farm? . . **WP** -- **NEVER WORKED** . . . . . **NEV**	e.	(026) Class of worker 1 ☐ P 2 ☐ F 3 ☐ S 4 ☐ L 5 ☐ I 6 ☐ SE 7 ☐ WP 8 ☐ NEV
13a. Did -- ever serve in the Armed Forces of the United States?	13a.	(027) 1 ☐ Yes 2 ☐ No *(Next SP or Q. 14)*
b. When did he serve? *Mark box in descending order of priority. Thus if person served in Vietnam and in Korea, mark VN.* — Vietnam Era (Aug. '64–April '75) . . . . VN; Korean War (June '50–Jan. '55) . . . . . KW; World War II (Sept. '40–July '47) . . . . WWII; World War I (April '17–Nov '18) . . . . . WWI; Post Vietnam (May '75 to present) . . . PVN; Other Service (all other periods) . . . . OS	b.	(028) 1 ☐ VN 2 ☐ KW 3 ☐ WWII 4 ☐ WWI 5 ☐ PVN 6 ☐ OS 9 ☐ DK

GO TO NEXT SP OR QUESTION 14, PAGE 6. (029)

Item		↓ ~ PGM 2 NCHS USE ONLY (001) CENSUS USE ONLY (002)
1. Line number (*Transcribe from page 2*)	1.	(003) _____
2. Date of birth (Transcribe from *page 2*)	2.	Month (004) Day (005) Year (006)
3. Age (Transcribe from *page* 2)	3.	Months (007) Years (008)
4. Sex	4.	(009) 1 ☐ Male 2 ☐ Female
5. Race	5.	(010) 1 ☐ White 2 ☐ Black 3 ☐ Other
6. In what State was -- born? Enter the name of the *State* or foreign country.	6.	State or foreign country (011)
7. Is -- now married, widowed, divorced, separated, or never married? *Mark* one box	7.	(012) 1 ☐ Under 17 4 ☐ Divorced 2 ☐ Married 5 ☐ Separated 3 ☐ Widowed 6 ☐ Never married
Please look at this card. (*Hand* Card 0) **8. Which one of those groups BEST describes --'s national origin or ancestry?**	8.	(013) Enter *precode*
If under 6 years, mark "None." **9a. What is the highest grade or year of regular school -- has ever attended?**	9a.	(014) 0 ☐ None *(10)* 2 ☐ Elem. . . . . 1 2 3 4 5 6 7 8 3 ☐ High . . . . . 1 2 3 4 4 ☐ College . . . 1 2 3 4 St
b. Did -- finish the -- grade (year)?	b.	(015) 1 ☐ Yes 2 ☐ No
ASK *IF 17+*; OTHERWISE GO TO NEXT SP OR QUEST/ON 14, PAGE 6. **10a. What was -- doing MOST of the past 12 months?** (For males) **Working or doing something else?** (For females) **Keeping house, working, or doing something else?**	100.	(016) 1 ☐ Working *(10d)* 2 ☐ Keeping house *(10c)* 3 ☐ Something else
b. What was -- doing?	b.	(017) 1 ☐ Layoff 2 ☐ Retired 3 ☐ Student 4 ☐ Ill 6 ☐ Staying home 6 ☐ Looking for work 7 ☐ Unable to work 0 ☐ Other -- specify
c. Did -- work at a job or business AT ANY TIME during the past THREE months?	c.	(018) 1 ☐ Yes 2 ☐ No *(11b)*
d. When -- was working, did he usually work full time or part time?	d	(019) 1 ☐ Full time 2 ☐ Part time
11a. Did -- work at any time last week or the week before not counting work around the house?	110	(020) 1 ☐ *Yes(12)* 2 ☐ No
b. Even though -- did not work during that time, does he have a job or business?	b	(021) 1 ☐ *Yes* 2 ☐ No
c. Was he looking for work or on layoff from a job?	c.	(022) 1 ☐ Yes 2 ☐ No *(12)*
d. Which -- looking for work or on layoff from a job?	d.	(023) 1 ☐ Looking 2 ☐ Layoff 3 ☐ Both
Ask for all persons with a "Yes" in 11a, b, or c. If "Yes" in 11c only, questions 12a through 12e apply to this person's LAST full-time civilian job.		
12a. For whom did -- work? *Name* of *company*, business, *organization*, or other employer	120.	Employer
b. What kind of business or industry is this? For *example*, TV ond radio manufacturing, *retail* shoe store, State *Labor* Dept., *form*	b.	Industry (024)
c. What kind of work was -- doing? For *example*, electrical engineer, stock clerk, typist. former	c.	Occupation (025)
d. What were --'s most impoftont **activities** or duties? for *example*, types, keeps *account* books, files. sells *cars*, operates printing press, finishes concrete	d.	Duties
Complete from **entries** in 12a–d; if not clear, ask: 0. War -- **an employee of a PRIVATE company, business, or individual for wages, salary,** or **commission?** . . . . . P -- **a FEDERAL government employee?** . . . . . F -- **a STATE government employee?** . . . . . S -- **a LOCAL government employee?** . . . . . L -- **self-employed** in OWN **business, professional practice, or farm?** If not a farm, ask: **Is the business incorporated?** Yes . . . . . I No (or farm) . . . . . SE -- **working WITHOUT PAY in family business or farm?** . . . WP -- **NEVER WORKED** . . . . . NEV	e.	Class of worker (026) 1 ☐ P 5 ☐ I 2 ☐ F 6 ☐ SE 3 ☐ S 7 ☐ WP 4 ☐ L 8 ☐ NEV
13a. Did -- ever serve in the Armed Forces of the United States?	130	(027) 1 ☐ Yes 2 ☐ *No (Next SP or 0. 14,*
b. When did he **serve?** Mark box in descending ● order of priority. Thus if person served in Vietnam and in Korea, *mark VN.*	b.	(028) 1 ☐ VN 5 ☐ PVN 2 ☐ KW 6 ☐ OS 3 ☐ WWII 9 ☐ DK 4 ☐ WWI Vietnam Era (Aug. '64-April '75). . . . VN Korean War (June **'50–Jan.'55).** . . . . . KW World War II (Sept. 'O-July '47) . . . . **WWI** I World War I (April **'17–Nov.'18).** . . . . WWI Post Vietnam (May '75 to present) . . . PVN Other service (all other periods). . . . . OS
▶ GO TO NEXT **SP** OR QUESTION 14, PAGE **6**.		

PGM 2

NCHS USE ONLY (001)		NCHS USE ONLY (001)	NCHS USE ONLY (001)
CENSUS USE ONLY (002)		CENSUS USE ONLY (002)	CENSUS USE ONLY (002)
1. (003)		1. (003)	1. (003)
2. (004) Month (005) Day (006) Year		2. (004) Month (005) Day (006) Year	2. (004) Month (005) Day (006) Year
3. (007) Months (008) Years		3. (007) Months (008) Years	3. (007) Months (008) Years
4. (009) 1 Male 2 Female		4. (009) 1 Male 2 Female	4. (009) 1 Male 2 Female
5. (010) 1 White 2 Black 3 Other		5. (010) 1 White 2 Black 3 Other	5. (010) 1 White 2 Black 3 Other
6. (011) State or foreign country		6. (011) State or foreign country	6. (011) State or foreign country
7. (012) 1 Under 17 2 Married 3 Widowed 4 Divorced 5 Separated 6 Never married		7. (012) 1 Under 17 2 Married 3 Widowed 4 Divorced 5 Separated 6 Never married	7. (012) 1 Under 17 2 Married 3 Widowed 4 Divorced 5 Separated 6 Never married
8. (013) Enter precode		8. (013) Enter precode	8. (013) Enter precode
9a. (014) 0 None (10) 2 Elem. 1 2 3 4 5 6 7 8 3 High 1 2 3 4 4 College 1 2 3 4 5 t		9a. (014) 0 None (10) 2 Elem. 1 2 3 4 5 6 7 8 3 High 1 2 3 4 4 College, 1 2 3 4 St	9a. (014) 0 None (10) 2 Elem. 1 2 3 4 5 6 7 8 3 High 1 2 3 4 4 College, 1 2 3 4 St
b. (015) 1 Yes 2 No		b. (015) 1 Yes 2 No	b. (015) 1 Yes 2 No
10a. (016) 1 Working (10d) 2 Keeping house (10c) 3 Something else		10a. (016) 1 Working (10d) 2 Keeping house (10c) 3 Something else	10a. (016) 1 Working (10d) 2 Keeping house (10c) 3 Something else
b. (017) 1 Layoff 2 Retired 3 Student 4 Ill 5 Staying home 6 Looking for work 7 Unable to work 0 Other — Specify		b. (017) 1 Layoff 2 Retired 3 Student 4 Ill 5 Staying home 6 Looking for work 7 Unable to work 0 Other — Specify	b. (017) 1 Layoff 2 Retired 3 Student 4 Ill 5 Staying home 6 Looking for work 7 Unable to woh 0 Other — Specify
c. (018) 1 Yes 2 No (11b)		c. (018) 1 Yes 2 No (11b)	c. (018) 1 Yes 2 No (11b)
d. (019) 1 Full time 2 Part time		d. (019) 1 Full time 2 Part time	d. (019) 1 Full time 2 Part time
11a. (020) 1 Yes (12) 2 No		11a. (020) 1 Yes (12) 2 No	11a. (020) 1 Yes (12) 2 No
b. (021) 1 Yes 2 No		b. (021) 1 Yes 2 No	b. (021) 1 Yes 2 No
c. (022) 1 Yes 2 No (12)		c. (022) 1 Yes 2 No (12)	c. (022) 1 Yes 2 No (12)
d. (023) 1 Looking 2 Layoff 3 Both		d. (023) 1 Looking 2 Layoff 3 Both	d. (023) 1 Looking 2 Layoff 3 Both
12a. Employer		12a. Employer	12a. Employer
b. (024) Industry		b. (024) Industry	b. (024) Industry
c. (025) Occupation		c. (025) Occupation	c. (025) Occupation
d. Duties		d. Duties	d. Duties
e. (026) Class of worker 1 P 2 F 3 S 4 L 5 I 6 SE 7 WP 8 NEV		e. (026) Class of worker 1 P 2 F 3 S 4 L 5 I 6 SE 7 WP 8 NEV	e. (026) Class of worker 1 P 2 F 3 S 4 L 5 I 6 SE 7 WP 8 NEV
13a. (027) 1 Yes 2 No (Next SP or Q. 14)		13a. (027) 1 Yes 2 No (Next SP or Q. 14)	13a. (027) 1 Yes 2 No (Next SP or Q. 14)
b. (028) 1 VN 2 KW 3 WWII 4 WWI 5 PVN 6 OS 9 DK		b. (028) 1 2 KW 3 WWII 4 WWI 5 PVN 6 OS 9 DK	b. (028) 1 VN 2 KW 3 WWII 4 WWI 5 PVN 6 OS 9 DK

GO TO NEXT SP OR QUESTION 14, PAGE 6.

		→ PGM 3
4a. How many rooms are in this —? Count the kitchen but not the bathroom.	14a.	(001) ____ Rooms
b. [illegible] many bedrooms [illegible]? If "None," describe in notes.	b.	(002) ____ Bedrooms
ASK ONLY OF UNRELATED HOUSEHOLD MEMBERS; OTHERWISE CONTINUE WITH QUESTION 15a. c. Do you have complete kitchen facilities in YOUR living quarters, that is, a kitchen sink with piped water, a refrigerator and a range or cookstove?	c.	(003) 1 ☐ Yes (16) 2 ☐ No
5a. [illegible] you (have/have [illegible]) complete [illegible] facilities [illegible] house (these living quarters); that is, a kitchen sink with piped water, a refrigerator and a range or cookstove?	15a.	(004) 1 ☐ Yes (15e) 2 ☐ No
b. Do you (have/have access to) —	b.	
A range or cookstove?		(005) 1 ☐ Yes 2 ☐ No
A refrigerator?		(006) 1 ☐ Yes 2 ☐ No
A sink with piped water?		(007) 1 ☐ Yes (15d) 2 ☐ No
c. Is there piped water in this house (these living quarters)?	c.	(008) 1 ☐ Yes 2 ☐ No (16)
d. Is there both hot and cold water?	d.	(009) 1 ☐ Yes (16) 2 ☐ No (16)
e. Are [illegible] kitchen facilities used [illegible] NOT [illegible] this household?	d.	(010) 1 ☐ Yes 2 ☐ No
6. What is the MAIN type of heating system you have? Mark one.	16.	(011) 11 ☐ Steam or hot water system 12 ☐ Central warm air furnace with ducts to individual rooms, or central heat pump (forced air) 13 ☐ Built-in electric units (permanently installed in wall, ceiling, or baseboard) 14 ☐ Floor, wall, or pipeless furnace 15 ☐ Circulating, radiant, or room heaters, WITH flue or vent, burning gas, oil, or kerosene 16 ☐ Circulating, radiant, or room heaters (not portable), WITHOUT flue or vent, burning gas, oil, or kerosene 17 ☐ Fireplaces or stoves burning coal, wood, or coke 18 ☐ Portable room heaters of any kind 19 ☐ Some other type - Describe 20 ☐ None, unit is not heated
7. Do you have air-conditioning?	17.	(012) 1 ☐ Yes — Individual room unit 2 ☐ Yes — Central air-conditioning 3 ☐ No
8. How many motor vehicles are owned or regularly used for transportation by members of your family? (Count company cars left at home.)	18.	(013) ____ Vehicles
9a. Is any language other than English frequently spoken by family members living here?	19a.	(014) 1 ☐ Yes 2 ☐ No (20)
b. What language(s)?	b.	Language(s) spoken (015) ☐

Notes

Please look **at this** cord: (Hand card *J*)

to. Which of **these income** groups **represents your total combined family** income for **the** post 12 **months, that** is, **yours,** your --'s, **etc.? Include income** from **all sources** such • s **wages, salaries, social** security or **retirement benefits, help** from **relatives, rent** from **property** and so forth.

20. (016) Income group
11 ☐ A 15 ☐ E 19 ☐ I (B)
12 ☐ B 16 ☐ F 20 ☐ J (B)
13 ☐ C 17 ☐ G 21 ☐ K (B)
14 ☐ D 18 ☐ H (B) 22 ☐ L (B)

!1. During the post 12 months, bow much **money** did **you** and all **members** of **your family receive** in **wages** or **salaries before deductions?**

21. (017) $ _____ Amount

!2. During tbo post 12 months, did you **or** ony **members of your** family **receive any money** from –

a. Social Security or **Railroad Retirement?**

22a. (018) 1 ☐ Yes – How **much** ● Itmpothor?
2 ☐ No
(019) $ _____ Amount

b. Welfare payments or other **public assistance (suchas** oid to **families** with dependent children, old age **assistance,** or oid to **the** blind or **totally disabled)?**

b. (020) 1 ☐ [illegible] – [illegible] ● Itpoothor?
2 ☐ No
(021) $ _____ Amount

c. Unemployment compensation or workmen's compensation?

c. (022) 1 ☐ Yes – Hew **much altogether?**
2 ☐ No
(023) $ _____ Amount

d. Government employee pensions or private **pensions?**

d. (024) 1 ☐ Yes – How **much** ● Itogotbor?
2 ☐ No
(025) $ _____ Amount

• . Dividends, interest, or **rent?**

(026) 1 ☐ Yes – [illegible] **much** ● Ito0lotfw?
2 ☐ No
(027) $ _____ Amount

f. Net income from **their** own **nonfarm business, professional practice,** or **partnership?**
(If **there** wos a loss, ***mark*** "Loss" box ***and*** *write* in amount.)

f. (028) 1 ☐ Yes – **How much altogether?**
2 ☐ No
3 ☐ Loss
(029) $ _____ Net income

g. Not **income from a form?** (Net ***after operating*** *expenses.* Include comings os ***a tenant*** *farmer or sharecropper.* ***If*** *form lost money, mark "Loss" box and* write in *amount.)*

g. (030) 1 ☐ Yes – How **much** ● Itogothor?
2 ☐ No
3 ☐ Loss
(031) $ _____ Net income

h. Veteran's payments?

h. (032) 1 ☐ Yes–**Howmuch** ● Itogethor?
2 ☐ No
(033) $ _____ Amount

i. Alimony, child support, or contributions from **persons not** living in this **household?**

i. (034) 1 ☐ Yes – How much **altogether?**
2 ☐ No
(035) $ _____ Amount

j. Any other **income?**

j. (036) 1 ☐ Yes – How **much** ● Ito+hor?
2 ☐ No
(037) $ _____ Amount

INTERVIEWER: ***Enter*** the sum of all money received *from* ***all*** sources in questions 21 and 22.

(038) $ _____ Total amount

CHECK ITEM B

(039) 1 ☐ **No program available** (*Q9, P1*)
2 ☐ Food stamps **available** (23)

!3a. Are you certified to participate in **the** food **stamp program?**

23a. (040) 1 ☐ Yes
2 ☐ No
9 ☐ Don't know } (*Q9, P1*)

b. Are you **buying** food stomps now?

b. (041) 1 ☐ Yes, regularly
2 ☐ Yes, occasionally } (*Q9, P1*)
3 ☐ No

c. Wbot is **the MAIN reason** you aren't **participating** in **the** program?

c. (042) 1 ☐ No need
2 ☐ Not enough money at the time
3 ☐ No transportation
4 ☐ Pride
5 ☐ Other – Specify_____ } (Q9 P1

Notes

E	If this questionnaire is for an EXTRA unit, enter Control Number of original sample unit →	If in AREA SEGMENT also enter for FIRST unit listed on property →	LISTING SHEET: Sheet number	LISTING SHEET: Line number

TABLE X – LIVING QUARTERS DETERMINATIONS AT LISTED ADDRESS

Line No.	LOCATION OF UNIT Where are these quarters located? Enter exact description or location, e.g., Basement; 2nd floor, rear After entering description or location: • In Area Segment, go to (3) • In other types of segments, – If living quarters are not within the same specific sample address (and structure, if Permit Segment) – STOP TABLE X – Otherwise, go to (3) (2)	• If listed, enter sheet and line number, STOP Table X • If unlisted, – And Area Segment, go to (4). – And another type of segment, go to (5). (3)	If outside AREA SEGMENT boundary; mark box below, STOP Table X for this line, and – Go to next line of Table X, if additional quarters determined, or Continue with interview for original unit (4)	USE OR CHARACTERISTICS Are these (specify location) quarters for more than one group of people? If "Yes," fill one line for each group. (5)	USE OR CHARACTERISTICS OCCUPIED Do the occupants of these (specify location) quarters live and eat with any other group of people? (6)	USE OR CHARACTERISTICS ALL QUARTERS Do these quarters in (specify location) have: Direct access from the outside or through a common hall? (7)	USE OR CHARACTERISTICS Complete kitchen facilities for this unit only? (8)	CLASSIFICATION 4 – Not a separate unit – Add occupants to this questionnaire. HU / OT } Separate unit – interview on a separate questionnaire. (9)
1		S ___ L ___	Outside segment boundary	Yes No	Yes – Go to (9) and circle N No	Yes No	Yes No	N HU OT
2		S ___ L ___	Outside segment boundary	Yes No	Yes – Go to (9) and circle N No	Yes No	Yes No	N HU OT
3		S ___ L ___	Outside segment boundary	Yes No	Yes – Go to (9) and circle N No	Yes No	Yes No	N HU OT

Be sure to continue interview for original sample unit.

Notes

Medical History Questionnaire, Ages 6 Months-11 Years

FORM HES-31
(1-23-76)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

MEDICAL HISTORY QUESTIONNAIRE (Ages 6 Months – 11 Years)

HEALTH AND NUTRITION
EXAMINATION SURVEY II

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Child's name (First, middle initial, last)	b. Sex	c. Deck No.	d. NCHS Sample No.
	1 ☐ Male 2 ☐ Female	010	(100)

e. Segment No.	f. Serial No.	g. Line No.	h. Age	i. Date of birth Month	Day	Year
			____ Months ____ Years			

1. How much did -- weigh when he was born?	(101) ____ Pounds (102) ____ Ounces 99 ☐ DK
2. Was -- born prematurely, that is, early or not carried the full nine months?	(103) 1 ☐ Yes 2 ☐ No 9 ☐ DK
3. How old was --'s mother when he was born?	(104) ____ Years old 99 ☐ DK
4a. How many children has --'s mother ever had?	(105) ____ Children 1 ☐ One(6) 99 ☐ DK (6)
b. How many were born before --?	(106) ____ Children 0 ☐ None 99 ☐ DK
5. How many of --'s brothers and sisters weighed less thon five and one-half pounds at birth?	(107) ____ Brothers and sisters 0 ☐ None 99 ☐ DK
6. How old was -- when he first sot up by himself?	(108) Months 77 ☐ Doesn't sit up yet 99 ☐ DK
7. How old was -- when he first walked by himself?	(109) ____ Months 77 ☐ Doesn't walk yet 99 ☐ DK
8a. Was -- breast fed at any time on a regular basis?	110 0 1 ☐ Yes 2 ☐ No 9 ☐ DK } (9)
b. How old was -- when he stopped breost feeding?	(111) ____ Months 77 ☐ Still breast fed 0 ☐ Less than 1 month 99 ☐ DK

9a. As a baby, was -- at any time, regularly fed commercial milk or formula from a bottle?

(112) 1 ☐ Yes
2 ☐ No
9 ☐ DK } (10)

b. Was the type'of milk or formula used –

		Yes	No	DK
Whole cow's milk?	(113)	1 ☐	2 ☐	9 ☐
Commercially prepared nonfat mi lk solids?	(114)	1 ☐	2 ☐	9 ☐
A soy bore formula?	(115)	1 ☐	2 ☐	9 ☐
Commercially prepared milk or milk based formula?	(116)	1 ☐	2 ☐	9 ☐
Speci fybrand _____				
Any other type? – Specify _____	(117)	1 ☐	2 ☐	9 ☐

10. How old wos -- when he first started eating solid or mashed foods, such as cereal or fruit?

INTERVIEWER – Round down to nearest whole number of months.

08 ____ Months
0 ☐ Less than 1 month
99 ☐ DK

11a. Does or did -- have any conditions he was born with that involved his –

		Yes	No	DK
Heart?	(119)	1 ☐	2 ☐	9 ☐
Eyes?	(120)	1 ☐	2 ☐	9 ☐
Ears?	(121)	1 ☐	2 ☐	9 ☐
Mouth or throat?	(122)	1 ☐	2 ☐	9 ☐
Stomach or intestines?	(123)	1 ☐	2 ☐	9 ☐
Kidneys or urinary system?	(124)	1 ☐	2 ☐	9 ☐
Muscles, bones, or joints?	(125)	1 ☐	2 ☐	9 ☐
Brain or nervous system?	(126)	1 ☐	2 ☐	9 ☐
Any other condition that he was born with?	(127)	1 ☐	2 ☐	9 ☐

Specify _____

b. Would you soy - -'s health in general is excellent, very good, good, fair or poor?

(128) 1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor

12a. Has -- ever occidentally swallowed any medicine, pills, or poison?

(129) 1 ☐ Yes
2 ☐ No
9 ☐ DK } (13)

b. **What was swallowed?** – Specify

c. Did this result in any SERIOUS damage?

(130) 1 ☐ Yes
2 ☐ No (13)

d. **What was the damage?** – Specify

13a. Has -- ever had any bad accidents?

(131) 1 ☐ Yes
2 ☐ No } (14)
9 ☐ DK

b. In the accident(s) --

		Yes	No
Was he burned?	(132)	1 ☐	2 ☐
Did he break a bone?	(133)	1 ☐	2 ☐
Was he knocked unconscious?	(134)	1 ☐	2 ☐
Anything else? -- *Specify* _____	(135)	1 ☐	2 ☐

c. Does -- still have any effects of the accident(s)?

(136) 1 ☐ Yes
2 ☐ No (14)

d. What are the present effects? -- *Specify*

14a. Has -- ever stayed overnight or longer in a hospital for an illness or condition?

(137) 1 ☐ Yes
2 ☐ No (15)

b. For what condition? -- *Specify*

c. Has -- ever had an operation?

(138) 1 ☐
2 ☐

d. For what condition? -- *Specify*

15a. Is -- unable to do some things because of a condition that has bothered him for a long time?

(139) 1 ☐ Yes
2 ☐ No (16)

b. What is the condition? -- *Specify*

c. In what way is -- limited? -- *Specify*

16a. How many times has -- had pneumonia?

(140) _____ Times
☐ ☐ None (17)

b. Does he have it now?

(141) 1 ☐ Yes
2 ☐ No

17a. During the past six months, how many colds has -- had?

(142) _____ Colds
0 ☐ None (18)

b. Does he have one now?

(143) 1 ☐ Yes
2 ☐ No

18a. During the past six months, how many times has -- had diarrheo?	(144) Times_ ☐ ☐ None(19)
b. Does he hove it now?	(145) 1 ☐ Yes 2 ☐ No
19a. Some children ● ot unusual **substances.** Does -- eat clay, starch, paint, plaster, dirt, or any moteriol that might be considered unusual?	(146) 1 ☐ Yes 2 ☐ ☒ (20)
b. Is it -	Yes / No
Clay?	(147) 1 ☐ 2 ☐
Starch?	(148) 1 ☐ 2 ☐
Paint or plaster?	(149) 1 ☐ 2 ☐
Dirt?	(150) 1 ☐ 2 ☐
Any other material? - Specify _____	(151) 1 ☐ 2 ☐
200. Does -- hove unusual trouble seeing at night or in the dark?	(152) 1 ☐ Yes 2 ☐ No 9 ☐ DK
b. Do you have any reason to think that -- is color blind?	(153) 1 ☐ Yes 2 ☐ No 9 ☐ DK
c. Has -- ever had a test to see whether he is color blind?	(154) 1 ☐ Yes 2 ☐ No 9 ☐ DK

21. Has -- ever been treated for -	Yes	No	DK
Abnormal bleeding?	(155)	2 ☐	9 ☐
Tuberculosis?	(156) 1 ☐	2 ☐	9 ☐
Any other chest or lung conditions?	(157) 1 ☐	2 ☐	9 ☐
Congenital heart disease?	(158) 1 ☐	2 ☐	9 ☐
Rheumatic heart disease?	(159) 1 ☐	2 ☐	9 ☐
Any other heart condition?	(160) 1 ☐	2 ☐	9 ☐
Diabetes?	(161) 1 ☐	2 ☐	9 ☐
Epilepsy or convulsions?	(162) 1 ☐	2 ☐	9 ☐
Stomach or intestinal disorder, excluding diarrhea or flu?	(163) 1 ☐	2 ☐	9 ☐
Liver disorder?	(164) 1 ☐	2 ☐	9 ☐
Thyroid diseose or goiter?	(165) 1 ☐	2 ☐	9 ☐
Cancer or tumors?	(166) 1 ☐	2 ☐	9 ☐

22a. Has -- EVER hod ony skin tests for allergies? (167) 1 ☐ 2 ☐ No (23)

b. Did -- EVER hove a positive reaction to –

	Yes	No
Trees?	068 1 ☐	2 ☐
Gross?	(169) c l	2 ☐
Weeds?	070 1 ☐	2 ☐
Housedust?	(171) 1 ☐	2 ☐
Molds?	072 1 ☐	2 ☐
Bocterio?	(173) cl	2 ☐
Foods?	(174) 1 ☐	2 ☐

c. Has -- EVER had allergy shots? 075 1 ☐ 2 ☐

d. Has -- EVER hod any reaction to on allergy (shot/test) which was more than just o swelling around the sides of the (shot/test)? (176) 1 cl Yes 2 ☐ No

23a. Did a doctor ever tell you that -- hod –

If "Yes," ask 23b and c.

	Yes	No	b. Does he still have . . .? Yes	No	DK	c. How many years ago did -- first have it?
Asthmo?	(177)* 1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(178) _____
Hay fever?	(179)* 1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(180) _____
Any other allergies? – Specify _____	(181)* 1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(182) _____

If "Yes,"* to *any* conditions in *23a* ask *23d,* otherwise go to question 24.

d. Wos the doctor –

	Yes	No
A Cenerol Practitioner?	0183 1 ☐	2 ☐
An Internist?	(184) 1 ☐	2 ☐
An Ear, Nose and Throat Specialist?	085 1 ☐	2 ☐
An Allergist?	(186) 1 cl	2 ☐
Some other type? - Specify _____	087 1 ☐	2 ☐

Notes (188)

24a. During the post 12 months, not counting colds or the flu, hos -- FREQUENTLY hod trouble with –

		Yes	No
Wheezing?	(189)	1 ☐	2 ☐
Stuffy nose?	(190)	1 ☐	2 ☐
Itchy nose?	(191)	1 ☐	2 ☐
Watery discharge from the nose?	(192)	1 ☐	2 ☐
Post nasal drip?	(193)	1 ☐	2 ☐
Watery, [illegible]	(194)	1 ☐	2 ☐
Itchyears?	(195)	1 ☐	2 ☐
Sinus infections?	(196)	1 ☐	2 ☐

CHECK ITEM A → (197) 1 ☐ "Yes" in 23a or 24a (24b)
2 ☐ All other (25)

b. **Because** of ––'s (allergies/symptoms) you just mentioned,hove you EVER –

		Yes	No
Given him medication?	(198)	1 ☐	2 ☐
Moved to a different location?	(199)	1 ☐	2 ☐
Installed air-conditioning, o humidifier or on air cleaner?	(200)	1 ☐	2 ☐
Tried to keep him away from the things thot seem to bring on the condition or make it worse?.	(201)	1 ☐	2 ☐

c. Do the (allergies/symptoms) you mentioned bother -- in the –

		Yes	No
Spring?	(202)	1 ☐	2 ☐
Summer?	(203)	1 ☐	2 ☐
Fall until frost?	(204)	1 ☐	2 ☐
Fall after frost?	(205)	1 ☐	2 ☐

d. Do the (allergies/symptoms) you mentioned bother him –

		Yes	No
Indoors?	(206)	1 ☐	2 ☐
Outdoors?.	(207)	1 ☐	2 ☐

e. Do the (allergies/symptoms) you mentioned seem to get worse in –

		Yes	No
Dry weather?	(208)	1 ☐	2 ☐
Rainy or humid weather?	(209)	1 ☐	2 ☐

24. Continued

f. Do the (allergies/symptoms) bother -- more when he is around --

	Yes	No
Grass?	(210) 1 ☐	2 ☐
Trees?	(211) 1 ☐	2 ☐

g. How old was -- when he first began having trouble with the (allergies/symptoms) you mentioned?

0 2 1 2 _____ Years old
o ☐ Less than one year

h. Are there any things or places which YOU, NOT YOUR DOCTOR, associate with making --'s symptoms or allergy problem worse?

(213) 1 ☐ Yes -- Specify _____
2 ☐ No

i. Has -- EVER had a --
If "Yes," ask 24j.

j. Does'-- have one now?

	Yes	No	Yes	No
Dog for a pet?	(214)* 1 ☐	2 ☐	3 ☐	4 ☐
Cat for 0 pet?	(215)* 1 ☐	2 ☐	3 ☐	4 ☐

25a. Does -- now have any health problems that you would like to talk to a doctor about?

0 216 1 ☐ Yes
2 ☐ No (26)

b. What are the problems? -- Specify

_____

_____

26a. Has -- ever been tested for lead poisoning?

(217) 1 ☐ Yes
2 ☐ No
s ☐ DK
} (27)

b. How long ago was -- tested?

0 218 _____ Years
0 219 _____ Months
o ☐ Less than one month

c. Did the results indicate that he had lead poisoning or high lead?

0 220 1 cl Yes
2 ☐ No (27)

d.. Has -- ever been treated for lead poisoning?

(221) 1 c l Yes
2 ☐ No (27)

• . How long ago was -- treated?

(222 _____ Years
223 _____ Months
o ☐ Less than one month

27a. Does -- take any medicine regularly, not counting vitamins?

0 224 1 ☐ Yes
2 ☐ No (28)

b. What is the medicine for? -- Specify

_____

28. Does -- now take any vitamin or mineral supplements?

(225) 1 ☐ Yes
2 ☐ No

KIDNEY

29. Has -- EVER had any kidney, bladder, or other urinary problems?

(226) 1 ☐ Yes
2 ☐ No (32)

30a. Has -- EVER had any INFECTIONS of the kidney, bladder, or urinary tract?

(227) 1 ☐ Yes
2 ☐ No (31)

b. About how many times hos he had *on* infection of the kidney, bladder, or urinary tract?

(228) _____ Times

c. About how many times did tbe infection(s) involve the -

Kidney? . . . . . (229) _____ Times

Bladder? . . . . . (230) _____ Times

Urinary tract? . . . . . (231) _____ Times

d. Did -- have fever and chills with any of the infections?

(232) 1 ☐ Yes
2 ☐ No

. For how many of these infections did he take antibiotics or sulfa drugs?

(233) _____ Infections
☐ ☐ None

f. For how many of the infections did -- see a doctor?

(234) _____ Infections *(3 l b)*
☐ ☐ None

31a. Hos -- EVER seen o doctor for any kidney, bladder, or other urinary **problem?**

(235) 1 ☐ Yes
2 ☐ No (32)

b. Was the doctor -

	Yes	No
A General Practitioner?	(236) 1 ☐	2 ☐
An Internist?	(237) 1 ☐	2 ☐
A Urologist?	(238) 1 ☐	2 ☐
A **Nephrologist?**	(239) 1 ☐	2 ☐
Some other type? – Specify	(240) 1 ☐	2 ☐

_____

31. *Continued*

c. Did o doctor • vel **tell** you **that** -- hod -- *If* "Yes," *ask 31d and* e.		Yes	No	d. Does -- **still** hove the condition? Yes	No	DK	e. How old was -- when the condition first occurred? Years
Nephritis?	(241)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	242 _____
Kidney stones or stones in the ureter?	(243)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	244 _____
Nephrosis?	(245)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	246 _____
Kidney infection?	(247)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	240 _____
Kidney abcess?	(249)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	250 _____
Hydronephrosis?	(251)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	252 _____
Bladder infection?	(253)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	254 _____
Bladder stones?	(255)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	256 _____
Urinary tract infection?	(257)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	258 _____
Any other condition of the kidney, bladder or urinary tract? Specify	(259)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	260 _____

f. Has -- EVER had any special X-rays of the kidney, bladder, OR urinary tract? (261) 1 ☐ 2 ☐

g. Has -- EVER been hospitalized overnight or longer because of any trouble in his kidney, bladder, or urinary tract? (262) 1 ☐ Yes 2 ☐ No

h. When was the last time -- saw a doctor for a kidney, bladder, or urinary tract condition? (263) _____ Years ago o ☐ Less than I year ago

i. Has -- EVER been treated for a kidney, bladder, or urinary tract problem by --

		Yes	No
Diuretics or pills to lose water?	(264)	1 ☐	2 ☐
Steroids such as cortisone and prednisone?	265	1 ☐	2 ☐
Antibiotics?	(266)	1 ☐	2 ☐
Sulfa drugs?	(267)	1 ☐	2 ☐
Surgery?	(268)	1 ☐	2 ☐
Medicines to reduce blood pressure?	(269)	1 ☐	2 ☐
A special diet? Specify	(270)	1 ☐	2 ☐
Any other treatment? Specify	(271)	1 ☐	2 ☐

32. Has --'s mother, father, sisters or brothers EVER had -- (Anyone cl se?)	Mother	Father	Sister	Brother	No
Polycystic disease of the kidney?	272 0 * 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
BOTH chronic kidney disease AND nerve deafness in childhood?	(273) * 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Kidney or blodder stones?	(274) * 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
High blood pressure?	(275) * 1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

330. Did o doctor ever tell you that -- hod ony of the following in his urine -- If "Yes," ask 33b and c.	Yes	No	b. How many separate times did it happen?	c. When did it LAST happen?
Protein or albumin?	(276) 1 ☐	2 ☐	(277) Times	0270 ____ Years ago
Blood?	@ 1 ☐	2 ☐	(280) ____ Times	0281 ____ Years ago
Sugar?	(282) 1 ☐	2 ☐	(283) ____ Times	0204 ____ Years ago
Anything else? -- Specify ____	(285) 1 ☐	2 ☐	(286) - Times	0207 ____ Years ago

34a. Has -- ever had anemia, sometimes called "tired blood" or "low blood"?	0288 1 ☐ Yes 2 ☐ [illegible] s ☐ DK	(Check Item B)
b. How long ago?	(289) Years__ 0 ☐ Less than one year 99 ☐ Don't remember	
c. Did a doctor tell you that -- had anemia?	(290) 1 ☐ Yes 2 ☐ [illegible]	(Check Item B)

d. Was it caused by --		Yes	No	DK
Poor diet?	(291)	1 ☐	2 ☐	9 ☐
Loss of blood due to accident or injury?	(292)	1 ☐	2 ☐	9 ☐
Illness?	(293)	1 ☐	2 ☐	9 ☐
Surgery?	(294)	1 ☐	2 ☐	9 ☐
Something else? -- Specify ____	(295)	1 ☐	2 ☐	9 ☐

• [illegible] treated for this condition by a doctor?	(296) 1 ☐ [illegible] 2 ☐ [illegible]	Item B)

f. Was the treatment --		Yes	No
Better diet?	(297)	1 ☐	2 ☐
Iron pills?	(298)	1 ☐	2 ☐
Iron shots?	(299)	1 ☐	2 ☐
Vitamin pills?	(300)	1 ☐	2 ☐
Vitamin shots?	(301)	1 ☐	2 ☐
Blood transfusions?	(302)	1 ☐	2 ☐
Anything else? -- Specify ____	(303)	1 ☐	2 ☐

g. Is -- still being treated for it?	(304) 1 ☐ [illegible] 2 ☐ [illegible]	

CHECK ITEM ' B	(305) 1 ☐ Under 3 years (48) 2 ☐ 3 t years (35)
35a. Has -- ever had a running ear or any discharge from his ears, not counting wax in the ears?	(306) 1 ☐ Yes 2 ☐ No 9 ☐ DK } (36)
b. How often has -- had this problem?	307 1 ☐ Once only 2 ☐ Twice 3 ☐ 3 or more times 9 ☐ DK
c. Was this his left ear, right ear, or both ears?	308 1 ☐ Left 2 ☐ Right 3 ☐ Both 9 ☐ DK
d. Did -- see a doctor because of the condition?	(309) 1 ☐ Yes 2 ☐ No
36a. Did a doctor ever tell you that -- had on ear infection?	(310) 1 ☐ Yes 2 ☐ No (37)
b. How many times has -- had on ear infection?	(311) Times___
c. For how many separate infections did a doctor prescribe any -	
Oral medicine (Pills or liquid medicine)?	312 _____ Infections
Shots or injections?	313 - I n f e c t i o n s
Ear drops or other external application?	(314) _____ Infections
d. Did o doctor ever treat --'s ear infection by placing tubes in his ear?	(315) 1 ☐ Yes 2 ☐ No 9 ☐ DK
37a. Has -- ever had deafness or trouble hearing with one or both ears? Do not include any problems which lasted just a short period of time such os during a cold.	(316) 1 ☐ Yes 2 ☐ No 9 ☐ DK } (38e)
b. Did -- ever see a doctor about it?	(317) 1 ☐ Yes 2 ☐ No
c. How old was -- when his hearing trouble wos first noticed?	(318) _____ Years old
d. Since this trouble began, has it gotten worse, gotten better, or stayed about the same?	(319) 1 ☐ Gotten worse 2 ☐ Gotten better 3 ☐ Stayed about the same

e. Wos --'s hearing trouble or deafness caused by -		Yes	No	DK
An ear infection?	(320)	1 ☐	2 ☐	9 ☐
A loud noise, such os that from mochinory, gun fire, blosts. or explosions?	(321)	1 ☐	2 ☐	9 ☐
Ear surgery?	(322)	1 ☐	2 ☐	9 ☐
An ear injury?	(323)	1 ☐	2 ☐	9 ☐
Was he born with it?	(324)	1 ☐	2 ☐	9 ☐
Some other cause? - Specify _____	(325)	1 ☐	2 ☐	9 ☐

38a. How would you rate --'s hearing in his RIGHT ear -- good, fair, poor, or is he deaf?

326 1 ☐ Good
2 ☐ Fair
3 ☐ Poor
4 ☐ Deaf

b. How would you rote --'s hearing in his LEFT ear -- good, fair, poor, or is he deaf?

327 1 ☐ Good
2 ☐ Fair
3 ☐ Poor
4 ☐ Deaf

c. Has -- ever had an operation for an ear problem?

328 1 ☐ Yes
2 ☐ No(38e)

d. Was it --

	Yes	No	DK
An incision of the ear drum?	(329) 1 ☐	2 ☐	9 ☐
An operation on the stapes, one of the bones in the middle ear?	(330) 1 ☐	2 ☐	9 ☐
A mastoidectomy?	(331) 1 ☐	2 ☐	9 ☐
Some other operation? -- Specify	(332) 1 ☐	2 ☐	9 ☐

e. Has -- ever had his hearing tested?

(333) 1 ☐ Yes
2 ☐ No (38h)

f. How old was he when his hearing was LAST tested?

(334) _____ Years old

g. Was his hearing normal?

(335) 1 ☐ Yes
2 ☐ No

h. Has -- ever used a hearing aid?

(336) 1 ☐ Yes
2 ☐ No (39)

i. Which ear?

337 1 ☐ Right
2 ☐ Left
3 ☐ Both

j. Does - - now use a hearing aid?

338 1 ☐ Yes
2 ☐ No

39a. Has - - ever had any difficulties with his speech which lasted for 6 months or longer?

(339) 1 ☐ Yes
2 ☐ No

b. Has a teacher or any other person mentioned to you that -- might hove a speech problem?

340 1 ☐ Yes
2 ☐ No

c. Does -- now have any speech difficulties?

(341) 1 ☐ Yes
2 ☐ No

CHECK ITEM C

(342) 1 ☐ No to 39 a, b and c (40)
2 ☐ All others (39d)

39. Continued

d. Was the speech problem –

	Yes	No
Stuttering?	0343 1 ☐	2 ☐
Stammering?	0344 1 ☐	2 ☐
Lisping?	(345) 1 ☐	2 ☐
Hoarseness?	(346) 1 ☐	2 ☐
Difficulty saying certain sounds?	(347) 1 ☐	2 ☐
Some other problem? – Specify _____	(348) 1 ☐	2 ☐

e. What was the cause of the problem? – Specify

f. Did -- see a doctor or speech specialist about it?

(349) 1 ☐ Yes
2 ☐ No

g. How old was -- when he first began having speech problems?

0350 ☐☐ Years old

h. Has -- ever had any training, therapy or other treatment for his speech problem?

(351) 1 ☐ Yes
2 ☐ No (390)

i. Was the specialist who gave the speech therapy a –

	Yes	No
Speech therapist?	(352) 1 ☐	2 ☐
Neurologist?	0353 1 ☐	2 ☐
Psychologist?	(354) 1 ☐	2 ☐
Some other type? – Specify _____	0355 1 ☐	2 ☐

j. Altogether how long did this therapy last?

0356 ☐☐ Months
0357 ☐☐ Years

k. How old was -- when he began this therapy?

(358) ☐☐ Years old

l. Was the therapy provided by his school?

0 359 1 ☐ Yes
2 ☐ No

m. Is -- now receiving therapy for his speech problem?

(360) 1 ☐ Yes (390)
2 ☐ No

n. What was the MAIN reason for ending speech therapy?

(361) 1 ☐ Problem corrected
2 ☐ Could not afford it
3 ☐ No further improvement expected
4 ☐ Other – Specify _____

o. Is -- now enrolled in any special education class at school?

(362) 1 ☐ Yes
2 ☐ No (40)

p. What type of class is it? – Specify

40a. Has --'s mother, father, sister(s) **or brother(s),** either living or deceased, ever had a speech problem?

363 1 ☐ Yes
2 ☐ No

b. Was it his –
If "Yes," ask 40c.

	Yes	No
Mother?	(364) 1 ☐	2 ☐
Father?	(365) 1 ☐	2 ☐
Sister?	(366) 1 ☐	2 ☐
Brother?	367 1 ☐	2 ☐

c. What kind of problem was it?

If "Yes," to brother or sister ask 40d.

d. How many of --'s living brothers or sisters have ever had a speech problem?

(368) _____ Brother(s)
369 _____ Sister(s)

e. Has --'s mother, father, sister(s) or brother(s), either living or deceased, ever had a hearing problem?

370 ☐ Yes
2 ☐ No (41)

f. Was it his –

	Yes	No
Mother?	371 1 ☐	2 ☐
Father?	(372) 1 ☐	2 ☐
Sister?	(373) 1 ☐	2 ☐
Brother?	(374) 1 ☐	2 ☐

41a. How old was -- when he spoke his first rea l word?

375 1 ☐ Under 1 year
2 ☐ 1–1½ years
3 ☐ 1½–2 years
4 ☐ Over 2 years

b. How old was -- when he started to use sentences?

(376) 1 ☐ Under 1 year
2 ☐ 1–2 years
3 ☐ 2-3 years
4 ☐ 3-4 years
5 ☐ 4 years or older

c. When -- talks, how well con you ond others who know him well understand him?
(Mark one box and stop)

(377)
No problem understanding . . . . . 1 ☐
A little trouble understanding . . . . . 2 ☐
Moderate amount of trouble understanding. . 3 ☐
A lot of **trouble understanding** . . . . . 4 ☐
Cannot understand him ot all . . . . . 5 ☐

d. When -- **talks, how** well can strangers or people who do not know him well understand him?
(Mark one box and stop)

(378)
No problem understanding . . . . . 1 ☐
A little trouble understanding . . . . . 2 ☐
Moderate amount of trouble understanding. . 3 ☐
A lot of trouble understanding . . . . . 4 ☐
Cannot understand **him at** all . . . . . 5 ☐

e. B&fore **learning English, did** -- **speak** any other language a good deal of the time?

(379) 1 ☐ Yes
2 ☐ No

41. *Continued*

f. Does -- now speak any language other than English?
(380) 1 ☐ Yes – Specify _____ (Item D)

g. Does -- now use (this/these) other language(s) – *(Mark one box and stop)*

All of the time? . . . . . (381) 1 ☐
Most of the time? . . . . . 2 ☐
Some of the time? . . . . . 3 ☐
Very little of the time? . . . . . 4 ☐

CHECK ITEM D
(382) 1 ☐ Under 6 years (46)
2 ☐ 6 + years (42)

42a. Does -- have trouble with recurring or persistent cough attacks?
(383) 1 ☐ Yes
2 ☐ No (42c)

b. Has -- been bothered by such coughing attacks during the post year?
(384) 1 ☐ Yes
2 ☐ No

c. During the past 3 years, has -- had a period of increased cough and phlegm lasting for 3 consecutive weeks or more?
(385) 1 ☐ Yes
2 ☐

43a. Has -- ever seen a doctor about a lung or chest condition?
(386) 1 ☐ Yes
2 ☐ } (46)
9 ☐ DK }

b. What did the doctor say the condition or conditions affecting his chest or lung were? – Specify

DATA PREPARATION USE ONLY (ICDA Codes)
0 387 _____ 0 388 _____
0 389 _____ (390) _____

c. How old was -- when he first had the condition(s)?
(391) _____ Years old
0 ☐ Less than 1 year old

44. About how many days of school has -- missed during the past 12 months because of his . . . , (not counting colds or the "flu")?
(392) 1 ☐ None
2 ☐ 1–4 days
3 ☐ 5–9 days
4 ☐ 10–14 days
5 ☐ 15–19 days
6 ☐ 20–29 days
7 ☐ 30 days or more

45. Has -- ever stayed in a hospital overnight or longer because of a lung or chest condition?
(393) 1 ☐ Yes
2 ☐ No

46. Did a doctor or other specialist ever tell you that -- had –

		Yes	No
Polio or paralysis?	(394)	1 ☐	2 ☐
Cerebral palsy?	(395)	1 ☐	2 ☐
Any type of brain damage?	(396)	1 ☐	2 ☐
Vision trouble?	(397)	1 ☐	2 ☐
An emotional problem or disturbance?	(398)	1 ☐	2 ☐
Hyperactivity?	(399)	1 ☐	2 ☐
Mental retardation?	(400)	1 ☐	2 ☐

CHECK ITEM E	(401) 1 ☐ 6♦ years (47) 2 ☐ Under 6 years (48)
47a. Is -- now attending school?	402 1 ☐ Yes 2 ☐ No (48)
b. What is the name and address of the school -- goes to?	Name Address (Number and street) City | State | ZIP code } (49)
48a. Is -- attending a school or preschool program of any kind?	403 1 ☐ Yes 2 ☐ No (50)
b. Is it a -	Yes / No
Nursery?	(404) 1 ☐ 2 ☐
Kindergarten?	(405) 1 ☐ 2 ☐
Headstort?	(406) 1 ☐ 2 ☐
Doycore center?	(407) 1 ☐ 2 ☐
Some other school or preschool program?	(408) 1 ☐ 2 ☐
Specify _____	
490. Is there a lunch program at the (school/...) that -- attends?	(409) 1 ☐ Yes 2 ☐ No 9 ☐ DK } (49d)
b. How many times a week does -- usually participate?	(410) _____ Times 0 ☐ None (49d)
c. How much does -- pay for his lunch per day?	0 411 _____ Cents 0 ☐ Free
d. Is there a special milk program at the (school/...) that -- attends?	(412) 1 ☐ Yes 2 ☐ No 9 ☐ DK } (49g)
. . How many times a week does -- usually participate?	(413) _____ Times 0 ☐ None (49g)
f. How much does -- pay for his milk per day?	414 Cents ☐ ☐ Free
g. Is there a breakfast program at the (school/...) that -- attends?	415 1 ☐ Yes 2 ☐ No 9 ☐ DK } (50)
h. How many times a week does -- usually participate?	(416) _____ Times ☐ ☐ None (50)
i. How much does -- pay for his breakfast per day?	417 _____ Cents ☐ ☐ Free

50a. How much **does --'s** mother weigh?

(418) _____ Pounds
999 ☐ DK

b. How tall is she?

(419) _____ Feet

(420) _____ Inches
999 ☐ DK

51a. How much does **--'s father** weigh?

(421) _____ Pounds
999 ☐ DK

b. How tall is he?

(422) _____ Feet

(423) _____ Inches
sss ☐ DK

52a. Name of respondent

b. Respondent's relationship to child covered by this questionnaire.

(424)
1 ☐ Mother
2 ☐ Father
3 ☐ Sister or brother
4 ☐ Other – Specify _____

CHECK ITEM F

(425)
1 ☐ Another SP available for interview *(Next Medical* History Questionnoire)
2 ☐ No other SP available for interview *(Page* 3 of the Household *Questionnaire)*

Notes

(426)

(427)

(428)

Medical History Questionnaire, Ages 12-74 Years

FORM HES-32
(1-23-76)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

MEDICAL HISTORY QUESTIONNAIRE

(Ages 12-74 Years)

HEALTH AND NUTRITION EXAMINATION SURVEY 11

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Name (First, middle initial, last)	b. Sex	c. Deck No.	d. NCHS Sample No.
	1 ☐ Male 2 ☐ Female	020	

e. Segment No.	f. Serial No.	g. Line No.	h. Age	i. Date of birth Month	Day	Year

1. Would you soy your health in general is excellent, very good, good, fair, or poor?

(101) 1 ☐ Excellent
2 ☐ Very good
3 ☐ Good
4 ☐ Fair
5 ☐ Poor

2. Do you now have any health problems that you would like to talk to a doctor about?

(102) 1 ☐ Yes
2 ☐ No

30. Are you now taking any medicine regularly, not counting vitamins?

(103) 1 ☐ Yes
2 ☐ No (4)

b. What is the medicine for?

_____

_____

4a. During the past 12 months how many different times did you stay in a hospital overnight or longer?

(104) _____ Times
o ☐ None (5)

b. For whot condition(s) were you in the hospital –

the first time? _____

the second time? _____

the third time? _____

DATA PREPARATION USE ONLY

(105) _____

(106) 06

(107) _____

c. How long were you in the hospital –

the first time? . . . . . (108) - Days

the second time? . . . . . (109) - Days

the third time? . . . . . (110) _____ Days

5. Have you ever lived in a household with a person who had active tuberculosis?

(111) 1 ☐ Yes
2 ☐ No
9 ☐ DK

NUTRITION

6a. Do you have an illness or condition which interferes with your eating, digestion, or appetite?

(112) 1 ☐ Yes
2 ☐ No (7)

b. What is the illness or condition?

Specify _____

DATA PREPARATION USE ONLY

(113) _____

7. Do you have trouble biting or chewing food?

(114) 1 ☐ Yes
2 ☐ No

8. Do you avoid eating any of the following foods because they disagree with you –

		Yes	No
Milk?	(115)	1 ☐	2 ☐
Fats or fried foods?	(116)	1 ☐	2 ☐
Green vtgeta bles?	(117)	1 ☐	2 ☐
Seafood?	(118)	1 ☐	2 ☐
Any other foods? Specify	(119)	1 ☐	2 ☐

_____

Notes

(120)

(121)

(122)

9a. Hos a doctor EVER told you that you had — If "Yes," ask 9b and c.			b. Do you still have . . .?			c. How many years ago did you first have it?
	r Yes	No	Yes	No	DK	
Arthritis?	(123) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(124) ____
Gout?	(125)	1 ☐ 2 ☐				(126) ____
Chronic bronchitis?	(127) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(128) ____
Emphysema?	(129)	1 ☐ 2 ☐				(130) ____
Tuberculosis?	(131) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(132)
Rheumatic fever ?	(133) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(134) ____
Rheumatic heart disease?	(135) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(136) ____
Heart murmur?	(137) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(138)
Heort failure?	(139) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(140) ____
Heart attack?	(141)	1 ☐ 2 ☐				(142) ____
Any other heart trouble?	(143) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(144) ____
Hardening of the orteries?	(145)	1 ☐ 2 ☐				(146) ____
A peptic, stomach, or duodenol ulcer?	(147) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(148) ____
Recurrent or chronic enteritis?	(149) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(150) ____
Ulcerative colitis?	(151) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(152) ____
Spastic colon or mucous colitis?	(153) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(154) ____
Gallstones?	(155) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(156) 5 6 - -
Hepatitis?	(157) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(158) ____
Yellow jaundice?	(159) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(160) ____
Chronic cough?	(161) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(162) ____
Pleurisy?	(163) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(164) ____
Low blood pressure?	(165) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(166) ____
Cataracts?	(167) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(168) ____
Glaucoma?	(169) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(170) ____
Thyroid disease?	(171) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(172) ____
Polio or paralysis?	(173) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(174) ____
Hiotus hernio of the diaphragm?	(175) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(176) ____
Goiter?	(177) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(178) ____
Cancer?	(179) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(180) ____
Benign tumor, growth, or cyst? (Except fat or skin; not cancerous)	(181) *	1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(182) ____

9. *Continued*

a. Has a doctor EVER told you that you had — If "Yes," ask 9b and c.		Yes	No	b. Do you still have . . .? Yes	No	DK	c. How many years ago did you first have it?	
Trouble with blood not clotting properly?	(183)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(184)	____
Loss of blood from stomach or bowels?	(185)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(186)	____
Nervous breakdown? . . .	(187)	1 ☐	2 ☐				(188)	____188
Neck injury?	(189)*	1 ☐	2)	3 ☐	4 ☐	9 ☐	(190)	____
Back injury?	(191)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(192)	____

10a. Have you EVER had anemia, sometimes called "tired blood" or "low blood?" (193) 1 ☐ Yes; 2 ☐ No; 9 ☐ DK } (11)

b. How many years ago did you first have it? (194) ____ Years; 0 ☐ Less than 1 year; 99 ☐ Don't remember

c. Did a doctor ever tell you that you had anemia? (195) 1 ☐ Yes; 2 ☐ No (11)

d. Was the anemia caused by —

		Yes	No	DK
Poor diet?	(196)	1 ☐	2 ☐	9 ☐
(Ask only of females 18+) Childbirth? . . . . . (Include stillbirths, miscarriages and abortions)	(197)	1 ☐	2 ☐	9 ☐
Loss of blood due to an accident or injury? . . .	(198)	1 ☐	2 ☐	9 ☐
Illness?	(199)	'cl	2 ☐	9 ☐
Surgery?	(200)	1 ☐	2 ☐	9 ☐
Any other cause? — Specify ____	(201)	1 ☐	2 ☐	9 ☐

e. Were you treated for this condition by a doctor? (202) 1 ☐ Yes; 2 ☐ No (11)

f. Was the treatment you used —

		Yes	No
Better diet?	(203)	1 ☐	2 ☐
Iron pills?	(204)	'cl	2 ☐
Iron shots?	(205)	1 ☐	2 ☐
Vitamin pills?	(206)	1 ☐	2 ☐
Vitamin shots?	(207)	1 ☐	2 ☐
Blood transfusions?	(208)	1 ☐	2 ☐
Any other treatment? — Specify ____	(209)	1 ☐	2 ☐

g. Are you still being treated for this condition? (210) 1 ☐ Yes; 2 ☐ No

119a. Do you eat clay, starch, or any materials which might be considered unusual?	(211) 1 ☐ Yes 2 ☐ No (12)
b. Which – Clay? Starch? Some other material? -Specify_____	Yes / No (212) 1 ☐ / 2 ☐ (213) 1 ☐ / 2 ☐ (214) 1 ☐ / 2 ☐
120. Are you on a special diet?	(215) 1 ☐ Yes 2 ☐ No (Check I tem A)
b. Was this diet ordered by a doctor?	(216) 1 ☐ Yes 2 ☐ No
CHECK ITEM A	(217) 1 ☐ 18+ (13) 2 ☐ Under 18 (14)
130. Have you smoked at least 100 cigarettes during your entire life?	(218) 1 ☐ Yes 2 ☐ No (13h)
b. Do you smoke cigarettes now?	(219) 1 ☐ Yes 2 ☐ No (13d)
c. On the averoge, how many a day do you smoke?	(220) _____ Cigarettes per day (13e)
d. How long has it been since you smoked cigarettes fairly regularly?	(221) . - Years (13f) 77 ☐ Under 1 year 98 ☐ Never smoked cigarettes regularly (13h) 99 ☐ DK
e. On the average, how many cigarettes a day were you smoking 12 months ago?	(222) _____ Cigarettes per day 98 ☐ Did not smoke 99 ☐ DK
f. During the period when you were smoking the most, about how many cigarettes a doy did you usually smoke?	(223) _____ Cigarettes per day , 99 ☐ DK
g. About how old were you when you first started smoking cigarettes fairly regularly?	24 _____ Years old 98 ☐ Never smoked regularly 99 ☐ DK
h. Do you smoke cigars now?	(225) 1 ☐ Yes 2 ☐ No (13j)
i. About how many cigars a day do you smoke?	(226) - Cigars per day (IF LESS THAN 7 PER DAY) 98 ☐ 3 to 6 per week 99 ☐ Less than 3 per week
j. Do you smoke a pipe now?	(227) 1 ☐ Yes 2 ☐ No (14)
k. About how many pipefuls of tobacco a day do you usually smoke?	(228) _____ Pipefuls per day (IF LESS THAN 7 PER DAY) 77 ☐ 3 to 6 per week 98 ☐ Less than 3 per week

14a. Do you drink coffee?	(229) 1 ☐ Yes 2 ☐ No (14e)
b. On the average, how many cups or glasses a doy do you drink?	(230) _____ Cups or glasses 0 ☐ Less than one per day
c. Do you usually drink decaffeinated coffee or regular coffee?	(231) 1 ☐ Decaffeinated 2 ☐ Regular 3 ☐ Both
d. Were you EVER advised by a doctor to use decoffeinoted coffee? (For example, Brim, Decaf, or Sanka)	(232) 1 ☐ Yes 2 ☐ No
e. Hove you EVER been advised by a doctor to stop drinking regular coffee?	(233) 1 ☐ Yes 2 ☐ No
15a. Do you drink tea?	(234) 1 ☐ Yes 2 ☐ No (15c)
b. On the overage, how many cups or glosses a day do you drink?	(235) _____ Cups or glasses 0 ☐ Less than one per day
c. Have you EVER been advised by a doctor to stop drinking tea?	(236) 1 ☐ Yes 2 ☐ No
16a. During the past 6 months, did you use any aspirin or aspirin-type pills?	(237) 1 ☐ Yes 2 ☐ No (17)
b. On the average, do you use these pi lls one or more times per week?	(238) 1 ☐ Yes 2 ☐ No
17. In things you do for RECREATION, for example, sports, hiking, dancing, and so forth, do you get much exercise, moderate exercise, or little or no exercise?	(239) 1 ☐ Much exercise 2 ☐ Moderate exercise 3 ☐ Little or no exercise
18. In your usual day, ASIDE FROM RECREATION, are you physically very active, moderately active, or quite inactive?	(240) 1 ☐ Very active 2 ☐ Moderately active 3 ☐ Quite inactive
19a. What is the most that you have ever weighed? (Do not include the times you were pregnant.)	(241) _____ Pounds
b. How old were you then?	(242) _____ Years old
Notes	

CHECK ITEM B	(243) 1 ☐ 18+ (20) 2 ☐ Under 18 (Check Item D)
20a. What is the least you have weighed since you were 18?	24 Pounds
b. How old were you then?	(245) _____ Years old
CHECK ITEM C	(246) 1 ☐ 25+ (21) 2 ☐ Under 25 (Check Item D)
21. About how much did you weigh when you were 25?	(247) _____ Pounds
CHECK ITEM D	(248) 1 ☐ 17+ (22a) 2 ☐ Under 17 (23)
22a. How many living children do you have?	(249) Children 0 ☐ None
CHECK ITEM E	(250) 1 ☐ Male (23) 2 ☐ Female (22b)
22b. How many children have you EVER had?	(251) _____ Children 0 ☐ None (23)
c. How many of these children weighed 9 or more pounds at birth?	(252) _____ Children 0 ☐ None
23a. About how tall are you without shoes?	(253) _____ Feet (254) _____ Inches
b. About how much do you weigh without clothes or shoes?	(255) _____ Pounds
24a. During the past 6 months, have you lost any weight without trying to?	(256) 1 0 Yes 2 ☐ No 9 ☐ DK } (25)
b. About how much weight hove you lost?	(257) - Pounds
25a. Do you have any reason to think that you are color blind?	(258) 1 ☐ Yes 2 ☐ No 9 ☐ DK
b. Have you ever had a test to see whether you ore color blind?	(259) 1 ☐ Yes 2 ☐ No 9 ☐ DK
c. Do you have SERIOUS trouble seeing with one or both eyes EVEN WHEN WEARING GLASSES?	(260) 1 ☐ Yes 2 ☐ No (26)
d. Can you see well enough to read ordinary newspaper print WITH GLASSES with your –	Yes / No
Left eye?	(261) 1 ☐ / 2 ☐
Right eye?.	(262) 1 ☐ / 2 ☐
e. Was your eye condition the result of an accident?	(263) 1 ☐ Yes 2 ☐ No

DIABETES

26a. Do you have diabetes or sugar diabetes? — (264) 1 ☐ Yes 2 ☐ No (27)

b. Did a doctor tell you that you hod it? — (265) 1 ☐ Yes 2 ☐ No

270. How many living brothers and sisters do you have? Do not count adopted, step or half brothers and sisters. — (266) _____ Living o ☐ None (27c)

b. How many of these brothers and sisters have diabetes or sugar diabetes? — (267) _____ Diabetics o ☐ None

c. How many of your brothers and sisters are not living? — (268) _____ Not living o ☐ None (27e)

d. How many of these-brothers and sisters had diabetes or sugar diabetes? — (269) _____ Diabetics ☐☐ None

e. Including those living and deceased, how mony of your brothers and sisters were born before you? — (270) Number ☐☐ None

f. Is your mother still living? — (271) 1 ☐ Yes 2 ☐ No

g. Does (did) she have diabetes or sugar diabetes? — (272) 1 ☐ Yes 2 ☐ No

h. Is your father still living? — (273) 1 ☐ Yes 2 ☐ No

i. Does (did) he have diabetes or sugar diabetes? — (274) 1 ☐ Yes 2 ☐ No

28. Hove you EVER been told by a doctor that you have –

		Yes	No
Borderline diabetes?	(275)	1 ☐	2 ☐
Prediabetes?	(276)	1 ☐	2 ☐
Potential diabetes?		1 ☐	2 ☐

Notes — (278) (279)

CHECK ITEM F	(280) 1 ☐ "No" in 26a and all of 28 (Check Item G) 2 ☐ All other (29)
29a. About how old were you when the doctor first told you that you had (diabetes/. . .)?	0 8 1 Years old
b. Were you a patient in a hospital at the time a doctor first told you that you had it?	(282) 1 ☐ Yes 2 ☐ No (30)
c. Were you in the hospital at that time because you had symptoms of (diabetes/. . .)?	0 3 1 ☐ Yes 2 ☐ No
30. (Not counting that first time) Have you ever been hospitalized because of your (diabetes/. . .)?	0 4 1 ☐ Yes 2 ☐ No
31a. Have you EVER taken insulin injections?	(285) 1 ☐ Yes 2 ☐ No (33)
b. Have you been taking insulin injections for most of the past 12 months?	(286) 1 ☐ Yes 2 ☐ No
c. Are you NOW taking insulin injections?	(287) 1 ☐ Yes 2 ☐ No
d. How many years (hove you been taking/did you take) them?	0 8 _____ Years o ☐ Less than 1 year
320. Do you know what an insulin reaction is?	(289) 1 ☐ Yes 2 ☐ No (33)
b. Have you EVER had an insulin reaction?	(290) 1 ☐ Yes 2 ☐ No (33)
c. How many insulin reactions have you had during the past 30 days?	(291) _____ Number o ☐ None
d. (Including these reactions) About how many have you had during the past 12 months?	0 2 _____ Number ☐ ☐ None
33a. Have you EVER taken diabetes pills?	(293) 1 ☐ Yes 2 ☐ No (34)
b. Hove you taken them most of the past 12 months?	(294) 1 ☐ Yes 2 ☐ No
c. Are you NOW taking diobetes pills?	(295) 1 ☐ Yes 2 ☐ No (33e)
d. What is the name of the medicine? – Specify	
e. How many ears (have you been taking/did you take) them!	(296) _____ Years o ☐ Less than 1 year

34a. Have you EVER been given a WRITTEN diet for your (diabetes/ . . .)?	(297) 1 ☐ Yes 2 ☐ No *(35)*
b. Was this diet ordered by a doctor?	(298) 1 ☐ Yes 2 ☐ No
c. Do you NOW follow this diet?	(299) 1 ☐ Yes 2 ☐
d. How many years (have you been/were you) on a diet for your (diabetes/. . .)?	(300) _____ Years 0 ☐ Less than 1 year
35. Do you carry or wear anything which identifies you as a (diabetic/. . .)?	(301) 1 ☐ Yes 2 ☐ No
36. When did you last see or talk to a doctor about your (diabetes/ . . .)?	(302) _____ Days (303) Weeks (304) _____ Months (305) Years
37a. During the past 12 months did your (diabetes/ . . .) cause you to cut down on the things you usually do?	(306) 1 ☐ Yes 2 ☐ No (Check Item G)
b. During the past 12 months, about how many days did you cut down on your activity for all or most of the day?	(307) _____ Days 0 ☐ None (Check Item G)
c. During the past 12 months, about how many days did this condition keep you from work or school, not counting work around the house?	(308) 0 8 - - Days 0 ☐ None
d. During the past 12 months, about how many days did your condition limit the kind or amount of work around the house you could do?	(309) _____ Days 0 ☐ None
e. During the past 12 months, about how many days has this condition kept you in bed all or most of the day?	(310) _____ Days 0 ☐ None
CHECK ITEM G	(311) 1 ☐ Under 25 *(38)* 2 ☐ 25+ (43)
Notes	(312) (313)

RESPIRATORY CONDITIONS

38a. Do you have trouble with recurring persistent cough attacks?

(314) 1 ☐ Yes
2 ☐ No (39)

b. Have you been bothered by such coughing attacks during the past 12 months?

(315) 1 ☐ Yes
2 ☐ No

39. During the past 3 years have you had a period of increased cough and phlegm lasting for 3 weeks or more?

(316) 1 ☐ Yes
2 ☐ No

40a. Have you EVER seen a doctor about a lung or chest condition?

(317) 1 ☐ Yes
2 ☐ No (43)

b. What did he say the condition or conditions affecting your lung or chest were?

c. How old were you when you first had the condition?

(318) 1 ☐ Under 10 – Specify _____
2 ☐ 10-19 years old
3 ☐ 20-24 years old

41. About how many work or school days have you lost during the past 12 months because of your lung condition, not counting colds or the "flu?"

(319) 1 ☐ None
2 ☐ 1-4 days
3 ☐ 5-9 days
4 ☐ 10-14 days
5 ☐ 15–19 days
6 ☐ 20–29 days
7 ☐ 30 days or more

42. Have you EVER stayed in a hospital overnight or longer because of a lung or chest condition?

(320) 1 ☐ Yes
2 ☐ No

HEARING and SPEECH

43a. During the past 12 months, have you EVER been bothered by ringing or other funny noises in your ears?

(321) 1 ☐ Yes
2 ☐ No (44)

b. How often – every few days or less often?

(322) 1 ☐ Every few days
2 ☐ Less often

c. When it does occur, does it bother you quite a bit, just a little, or not at all?

(323) 1 ☐ Quite a bit
2 ☐ Just a little
3 ☐ Not at all

44a. Have you EVER had a running ear or any discharge from your ears not counting wax in the ears?

(324) 1 ☐ Yes
2 ☐ No
9 ☐ DK } (45)

b. How often have you had a running ear or any discharge from your ear?

(325) 1 ☐ Once only
2 ☐ Twice
3 ☐ 3-5 times
4 ☐ 6 or more times
9 ☐ DK

c. Did you see a doctor because of this condition?

(326) 1 ☐ Yes
2 ☐ No
9 ☐ DK

45a. Did a doctor EVER tell you that you had an ear infection?

(327) 1 ☐ Yes
2 ☐ No (46)

b. How mony times have you had an ear infection?

(328) _____ Times

c. For how many separate infections did a doctor prescribe any –

Oral medication (pills or liquid medicine)?. . . . . (329) _____ Infections

Shots or injections?. . . . . (330) _____ Infections

Eardrops or other external applications? . . . . . (331) _____ Infections

d. Did a doctor EVER treat an ear infection you hod by placing tubes in your ear?

(332) 1 ☐ Yes
2 ☐ No
9 ☐ DK

46a. Have you EVER had deafness or trouble hearing with one or both ears? Do not include any problems which lasted just a short period of time such as during a cold.

(333) 1 ☐ Yes
2 ☐ No (46j)

b. Did you EVER see a doctor about it?

(334) 1 ☐ Yes
2 ☐ No

c. How old were you when you first began having trouble hearing?

(335) 1 ☐ 0-4 years old
2 ☐ 5-9 years old
3 ☐ 10–19 years old
4 ☐ 20-29 years old
5 ☐ 30-39 years old
6 ☐ 40–49 years old
7 ☐ 50 years old or older

d. Since this trouble began, has it gotton worse, gotten better, or stayed about the same?

(336) 1 ☐ Gotten worse
2 ☐ Gotten better
3 ☐ Stayed about the same

e. Was your hearing trouble or deofness caused by –

	Yes	No	DK
An ear infection?	(337) 1 ☐	2 ☐	9 ☐
A loud noise such as that from machinery, gunfire, blasts, or explosions?	(338) 1 ☐	2 ☐	9 ☐
Ear surgery?	(339) 1 ☐	2 ☐	9 ☐
An ear injury?.	(340) 1 ☐	2 ☐	9 ☐
Were you born with it?	(341) 1 ☐	2 ☐	9 ☐
Some other cause? – Specify_____	(342) 1 ☐	2 ☐	9 ☐

46. Continued

f. How would you rate your hearing in your RIGHT ear — good, fair, poor or are you deaf?

(343) 1 ☐ Good
2 ☐ Fair
3 ☐ Poor
4 ☐ Deaf

g. How would you rate your hearing in your LEFT ear — good, fair, poor or are you deaf?

(344) 1 ☐ Good
2 ☐ Fair
3 ☐ Poor
4 ☐ Deaf

h. Have you EVER had an operation on your ears?

(345) 1 ☐ Yes
2 ☐ (46j)

i. Was it —

		Yes	No	DK
An incision of the eardrum?	(346)	1 ☐	2 ☐	9 ☐
An operation on the stapes, one of the bones in the middle ear?	(347)	1 ☐	2 ☐	9 ☐
A mastoidectomy?	(348)	1 ☐	2 ☐	9 ☐
Some other operation ? — Specify_____	(349)	1 ☐	2 ☐	9 ☐

j. Have you EVER had your hearing tested?

(350) 1 ☐ Yes
2 ☐ No (46m)

k. How old were you when your hearing was LAST tested?

(351) 1 ☐ O-9 years old
2 ☐ I O-I 9 years old
3 ☐ 20-29 years old
4 ☐ 30 years old or older

l. Was your hearing normal?

(352) 1 (Yes
2 ☐ No
9 ☐ DK

m. Have you EVER used a hearing aid?

(353) ☐
2 ☐ No (Check Item H)

n. Which ear?

(354) 1 ☐ Right
2 ☐ Left
3 ☐ Both

o. Do you now use a hearing aid?

(355) 1 ☐ Yes
2 ☐ No

CHECK ITEM H

(356) 1 ☐ 17+ (47)
2 ☐ Under 17 (51)

47. Have you EVER worked at a job where the noise level required that you speak much louder than you usually do?

(357) 1 ☐ Yes
2 ☐ No

LIVER AND GALLBLADDER CONDITIONS

48a. Has a doctor EVER told you that you had a liver or gallbladder condition?

(358) 1 ☐ Yes
2 ☐ No (49)

b. Did the doctor say the condition was any of the following — If "Yes," ask 48c and d.		Yes	No	c. Do you still have . . .? Yes	No	DK	d. How many years ago did you first have it?
Hepatitis?	(359)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(360) ____
Cirrhosis?	(361)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(362) ____
Inflammation of the gallbladder (Cholecystitis)?	(363)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(364)
Gallstones?	(365)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(366) ____
Liver abcess?	(367)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(368) ____
Hemochromatosis (He-moe-crow-ma-toe-sis)?	(369)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(370) ____
Some other liver or gallbladder condition?	(371)*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	(372) ____
Specify ____							

e. Has a doctor EVER treated the liver or gallbladder condition with —		Yes	No
Removal of the gallbladder?	(373)	1 ☐	2 ☐
Any other surgery?	(374)	1 ☐	2 ☐
Medication?	(375)	1 ☐	2 ☐
Diet?	(376)	1 ☐	2 ☐
Bedrest?	(377)	1 ☐	2 ☐
Some other way? — Specify ____	(378)	1 ☐	2 ☐

f. Have you EVER stayed in a hospital overnight or longer for a liver or gallbladder problem?

(379) 1 ☐ Yes
2 ☐ No

g. Are you NOW being treated by a doctor for a liver or gallbladder condition?

(380) 1 ☐ Yes
2 ☐ No

h. About how many work or school days have you lost during the past 12 months as a result of your liver or gallbladder condition?

(381) 1 ☐ None
2 ☐ 1–4 days
3 ☐ 5–9 days
4 ☐ 10–14 days
5 ☐ 15–19 days
6 ☐ 20-29 days
7 ☐ 30 days or more

49a. Have you EVER had trouble with persistent itching all over your body?

(382) 1 ☐ Yes
2 ☐ No (50)

b. Was there a rash along with the itching?

(383) 1 ☐ Yes
2 ☐ No

50a. Have you EVER lost your appetite for a period lasting one month or longer?

(384) 1 ☐ Yes
2 ☐ No (51)

b. Do you have this problem now?

(385) 1 ☐ Yes
2 ☐ No

KIDNEY PROBLEMS

51. Hove you EVER had any kidney, bladder, or other urinary problems?

(386) 1 ☐ Yes
2 ☐ No (56)

52a. Have you EVER had kidney stones?

(387) 1 ☐ Yes
2 ☐ No (53)

b. Have you EVER passed a stone?

(388) 1 ☐ Yes
2 ☐ No

c. Have you EVER had any of the following kinds of treatment for stones –

		Yes	No
Medicines?	(389)	1 ☐	2 ☐
Surgery?	(390)	1 ☐	2 ☐
Special diet?	(391)	1 ☐	2 ☐
Any other treatment? – Specify _____	(392)	1 ☐	2 ☐

53a. Have you EVER had any infections of the kidney, bladder or urinary tract?

(393) 1 ☐ Yes
2 ☐ No (54)

b. About how many times have you had an infection of the kidney, bladder or urinary tract?

(394) _____ Times

c. About how many times did the infection(s) involve the –

Kidney?	(395)	_____ Times
Bladder?	(396)	_____ Times
Urinary tract?	(397)	_____ Times

d. Did you have fever and chills with any of the infections?

(398) 1 ☐ Yes
2 ☐ No

e. For how many of these infections did you take antibiotics or sulfa drugs?

(399) _____ Infections
☐ None

f. For how many of the infections did you see a doctor?

(400) _____ Infections (54b)
0 ☐ None

54a. Have you EVER seen a doctor for **any** kidney, bladder, or other urinary problem?

401 1 ☐ Yes
2 ☐ No (55)

b. Was the doctor —

		Yes	No
A General Practitioner?	402	1 ☐	2 ☐
An Internist?	403	1 ☐	2 ☐
A Urologist?	404	1 ☐	2 ☐
A Nephrologist?	405	1 ☐	2 ☐
Some other type? — Specify _____	406	1 ☐	2 ☐

c. Did a doctor EVER tell you that you had —

If "Yes," ask 54d and e.

d. Do you still have . . .?

e. How many years ago did the condition begin?

		Yes	No	Yes	No	DK	e.
Nephritis (Ne-fry-tis)?	407*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	408 _____
Renal sclerosis?	409*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	410
Kidney stones or stones in the ureter?	411*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	412 _____
Nephrosis (Ne-fro-sis)?	413*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	414 _____
Kidney abcess?	415*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	416
Hydronephrosis?	417*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	418
(Males) Enlarged prostate?	419*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	420 _____
Bladder stones?	421*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	422 _____
Kidney infection?	423*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	424
Bladder infection?	425*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	426 _____
Urinary tract infection?	427*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	428 _____
Any other condition of the kidney, bladder or urinary tract? Specify _____	429*	1 ☐	2 ☐	3 ☐	4 ☐	9 ☐	430 _____

f. About how many work or school days have you lost during the past 12 months because of your kidney, bladder, or urinary condition?

431
1 ☐ None
2 ☐ 1–4 days
3 ☐ 5-9 days
4 ☐ 10–14 days
5 ☐ 15–19 days
6 ☐ 20-29 days
7 ☐ 30 days or more

g. Have you EVER had any special X-rays of your bladder, kidney, or urinary tract?

432 1 ☐ Yes
2 ☐ No

54. continued

h. Have you EVER **been hospitalized overnight** or **longer** because of **any trouble** in **your** kidney, bbddet, **or** utinoty **tract?** (433) 1 ☐ Yes 2 ☐ No

i. When was **the** bst **time** you sow **a doctor for a kidney,** bbddet, **or** utinoty condition? (434) _____ Years ago o ☐ Less than I year ago

j. Did **the treatment** fot a kidney, bladder, **or urinary tract problem** include –

		Yes	No
Diuretics *(Di-yr-ret-ic)* **or pills** for **water** loss?	(435)	1 ☐	2 ☐
Steroids such as cortisone *(cor-ti-zone)* **and prednisone** *(pred-ni-zone)*?	(436)	1 ☐	2 ☐
Antibiotics?	(437)	1 ☐	2 ☐
Sulfa dtugs?	(438)	1 ☐	2 ☐
Medicines to **reduce** blood **pressure?**	(439)	1 ☐	2 ☐
Surgery?	(440)	1 ☐	2 ☐
Special diet? – *Specify*	(441)	1 ☐	2 ☐
Any other treatment? – *Specify*	(442)	1 ☐	2 ☐

55a. Nave **you** hod any **trouble** with pain due to kidney, **bladder or** utinoty **problems?** (443) 1 ☐ Yes 2 ☐ ☐ (56)

b. Was the poin located in –

		Yes	No
Your right side AND back?	(444)	1 ☐	2 ☐
Your left side AND back?	(445)	1 ☐	2 ☐
Both sides AND bock?	(446)	1 ☐	2 ☐
The **area over** the bladder?	(447)	1 ☐	2 ☐
Your lower abdomen?	(448)	1 ☐	2 ☐

c. About how **many** times have you hod this pain? (449) _____ Times

56. Hos **your mother, father,** sisters, **or** btotbets EVER had – (Anyone else?)

		Mother	Father	Sister	Brother	No
Polycystic disease of the kidney?	(450)*	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Both **chronic** nephritis *(Kidney disease)* and **nerve** deafness in childhood?	(451)*	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
Kidney or bladder stones?	(452)*	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
High blood pressure?	(453)*	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

57a. Did a doctor EVER tell you that you had any of the following in your urine –		b. How many separate times did it happen	c. When did it LAST happen?
If "Yes," ask b and c.	Yes / No		
Protein or albumin?	(454) 1 ☐ 2 ☐	(455) (456) ____ Times	0 ____ Years ago
Blood?	(457) 1 ☐ 2 ☐	(458) ____ Times	(459) ____ Years ago
Sugar?	(460) 1 ☐ 2 ☐	(461) ____ Times	(462) ____ Years ago
Anything else? Specify	(463) 1 ☐ 2 ☐	(464) ____ Times	(465) 65 Years ago

ALLERGIES

58a. Have you ever had skin tests for allergies?

(466) 1 ☐ Yes
2 ☐ No (59)

b. Did you ever have a positive skin reaction to –

	Yes	No
Trees?	(467) 1 ☐	2 ☐
Grass?	(468) 1 ☐	2 ☐
Weeds?	(469) 1 ☐	2 ☐
House dust?	(470) 1 ☐	2 ☐
Molds?	(471) 1 ☐	2 ☐
Bacteria?	(472) 1 ☐	2 ☐
Foods?	(473) 1 ☐	2 ☐

c. Have you ever had allergy shots?

(474) 1 ☐ Yes
2 ☐ No

d. Have you ever had any reaction to an allergy (shot/test) which was more than just a swelling around the sides of the (shot/test)?

(475) 1 ☐ Yes
2 ☐ No

59a. Did a doctor EVER tell you that you had –		b. Do you still have . . .?			c. How many years ago did you first have it?
If "Yes," ask 59b and c.	Yes / No	Yes	No	DK	
Asthma?	(476)* 1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(477) ____
Hayfever?	(478)* 1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(479) ____
Any other allergies? Specify	(480)* 1 ☐ 2 ☐	3 ☐	4 ☐	9 ☐	(481) ____

If "Yes" to *any* condition in 59a ask 59d, otherwise, go to 60

d. Was the doctor –

	Yes	No
A General Practitioner?	(482) 1 ☐	2 ☐
An Internist?	(483) 1 ☐	2 ☐
An Ear, Nose and Throat Specialist?	(484) 1 ☐	2 ☐
An Allergist?	(485) 1 ☐	2 ☐
Some other type? Specify	(486) 1 ☐	2 ☐

60a. During the past 12 months, not counting colds or the flu, have you FREQUENTLY had trouble with –

	Yes	No
Wheezing?	487 1 ☐	2 ☐
Stuffy nose?	488 1 ☐	2 ☐
Itchy nose?	489 1 ☐	2 ☐
Watery discharge from the nose?	490 1 ☐	2 ☐
Post nasal drip?	491 1 ☐	2 ☐
Watery, itchy eyes?	492 1 ☐	2 ☐
Itchy ears?	493 1 ☐	2 ☐
Sinus infections?	494 1 ☐	2 ☐

CHECK ITEM I → 495 1 ☐ Yes in 59a or 60a (60b)
2 ☐ All other (61)

b. Because of the (allergies/symptoms) you just mentioned, have you ever –

	Yes	No	
Taken medication?	496 1 ☐	2 ☐	
Moved to a different location?	497 1 ☐	2 ☐	
Installed air-conditioning, a humidifier or an air-cleaner?	498 1 ☐	2 ☐	
Tried to keep away from the things that seem to bring on the condition or make it worse?	499 1 ☐	2 ☐	
Ask if 17+ Changed jobs?	500 1 ☐	2 ☐	☐ Under 17

c. Do these (allergies/symptoms) you mentioned bother you in the –

	Yes	No
Spring?	501 1 ☐	2 ☐
Summer?	502 1 ☐	2 ☐
Fall until frost?	503 1 ☐	2 ☐
Fall after frost?	504 1 ☐	2 ☐

d. Do the (allergies/symptoms) you mentioned bother you –

	Yes	No
Indoors?	505 1 ☐	2 ☐
Outdoors?	506 1 ☐	2 ☐

e. Do the (allergies/symptoms) you mentioned seem to get worse in –

	Yes	No
Dry weather?	507 1 ☐	2 ☐
Rainy or humid weather?	508 1 ☐	2 ☐

f. Do the (allergies/symptoms) both you more when you are around –

	Yes	No
Grass?	509 1 ☐	2 ☐
Trees?	510 1 ☐	2 ☐

60. Continued

g. How old were you when you first began having trouble with the (allergies/symptoms) you mentioned?

(511) _____ Years old

h. Are there any things or places which YOU, NOT YOUR DOCTOR, associate with making your symptoms or allergy problem worse?

(512) 1 ☐ Yes – Specify _____
2 ☐ No

i. Have you ever had a –

If "Yes," ask 60j.

	Yes	No	Do you have one now? Yes	No
Dog for a pet?	(513)* 1 ☐	2 ☐	3 ☐	4 ☐
Cat for a pet?	(514)* 1 ☐	2 ☐	3 ☐	4 ☐

Notes

(515)

(516)

(517)

HYPERTENSION

61a. **Have you EVER been told by a doctor that you had high blood pressure?**

(518) 1 ☐ Yes (61c)
2 ☐ No

b. **Another nomt for high blood pressure is hypertension.** Hove you EVER **been told by a doctor that you** hod **hypertension?**

(519) 1 cl Yes
2 ☐ No (65)

c. About how long ogo were you **FIRST** told **by a** doctor **that you hod (high blood pressure/hypertension)?**

(520) _____ Months

(521) _____ Years
0 ☐ Less than 1 month

620. During the past 12 **months, about** how mony times have you seen or **talked** to o doctor about your (high blood **pressure/hypertension)?**

(522) _____ Times
0 ☐ None

b. Hos o doctor EVER **advised** you to lose **wei** ht BECAUSE OF (HIGH BLOOD PRESSURE? HYPERTENSION)?

(523) 1 cl Yes
2 ☐ No

63a. Hos o doctor EVER prescribed medicine for your (high blood pressure/hypertension)?

(524) 1 cl Yes
2 ☐ No (64)

b. Are you NOW taking any medicine prescribed by a doctor for your (high blood **pressure/hypertension)?**

(525) 1 ☐ Yes
2 ☐ No (64)

c. How often ore you supposed to toke this medicine — more than once o doy, once o day, or less thon once a doy?

(526) 1 ☐ More than once a day
2 ☐ Once a day
3 ☐ Less than once a day

d. How often do you take your medicine when you are supposed to — all the time, often, once in o while, or never?

0(527) 1 ☐ All the time
2 ☐ Often
3 ☐ Once in a while
4 ☐ Never
s ☐ Other — Specify _____

64. ABOUT how mony days during the post **12** months has (high blood pressure/hypertension) kept you in bed **all** or most of the doy?

(528) _____ Days
0 ☐ None

65. During the post **12** months, how many times **was** your blood pressure token? Do not count times while a patient in o hospital.

0(529) _____ Times
0 ☐ None

CHECK ITEM J

(530) 1 ☐ Under 18 (76)
2 ☐ 18–24 (75)
3 ☐ 25+ (66)

CARDIOVASCULAR CONDITIONS

66. Have you EVER had any trouble with pain, discomfort, or pressure in your chest when you walk fast or uphill?
(531) 1 ☐ Yes
2 ☐ No

67a. Have you EVER had severe pain across the front of your chest lasting for half an hour or more?
(532) 1 ☐ Yes
2 ☐ No (68)

b. How many of these attacks hove you hod?
(533) 1 ☐ One
2 ☐ 2–3
3 ☐ 4 or more

c. Are you taking any medication to strengthen your heart beat or to regulate it?
(534) 1 ☐ Yes
2 ☐ No

68a. Have you EVER had shortness of breath either when hurrying on the level or walking up o slight hi II?
535 1 0 Yes ☐
2 ☐ No (69)

b. Have you had this problem for ot least 90 days of the year?
(536) 1 ☐ Yes
2 ☐ No

69. Have you EVER hod –

	Yes	No
Loss of vision or blindness lasting from several minutes to several days?	(537) 1 ☐	2 ☐
Difficulty in speaking or slurred speech lasting from several minutes to several days?	(538) 1 ☐	2 ☐
Loss of sensation, numbness or tingling sensations lasting from several minutes to several days?	(539) 1 ☐	2 ☐
A severe head injury leading to unconsciousness lasting for more than 5 minutes?	(540) 1 ☐	2 ☐
Prolonged weakness or paralysis of one or both-sides of the body lasting up to several months?	(541) 1 ☐	2 ☐

Notes
(542)
(543)

70a. Have you EVER had a stroke?

(544) 1 ☐ Yes

2 ☐ No (71)

b. Did a doctor tel I you this?

545 1 ☐ Yes

2 ☐ No

c. How many strokes have you had?

(546) _____ Strokes

1 ☐ One

d. How long ago did you have the (first) stroke?

(547) _____ **Years**

o ☐ Less than I year

If one stroke only, go to 70f

e. How long ago did you hove your LAST stroke?

(548) _____ Years

o ☐ Less than I year

f. When you had your stroke(s), did you have – If "Yes," go to 70g			**g. Do you still have . . .?**	
			Yes	**No**
Paralysis of the face?	(549)* 1 ☐	2 ☐	3 ☐	4 ☐
Paralysis of the arm or leg?	(550)* 1 ☐	2 ☐	3 ☐	4 ☐
Numbness of the arm or leg?	(551)* 1 ☐	2 ☐	3 ☐	4 ☐
Change in vision?	(552)* 1 ☐	2 ☐	3 ☐	4 ☐
Change in speech?	(553)* 1 ☐	2 ☐	3 ☐	4 ☐
Any other symptoms? – Specify _____	(554)* 1 ☐	2 ☐	3 ☐	4 ☐

Notes

(555)

BACK AND NECK PROBLEMS

71. Hove you EVER had pain in your back on **most** days for at least 2 weeks?
(556) 1 ☐ Yes
2 ☐ No

72. Hove you EVER had pain in your netk on most days for at least 2 weeks?
(557) 1 t-3 Yes
2 ☐ No

73. Have you EVER had **pain** or aching in any joint, other than the bock or neck, on most days for at least 6 weeks?
(558) 1 ☐ Yes
2 ☐ No

74a. Have you EVER had any swelling of joints, with pain present when the joint was touched, on most days for at least 1 month?
(559) 1 ☐ Yes
2 ☐ No

b. Have you had stiffness in your joints and muscles, when first getting out of bed in the morning, on most mornings for at least 1 month?
(560) 1 ☐ Yes
2 ☐ No

75a. Have you ever changed your job or stopped working because of a health problem?
(561) 1 ☐ Yes
2 ☐ No (Check Item K)

b. What was the health problem?

_____

_____

_____

_____

c. Did you –

	Yes	No
Retire because of disability-?	(562) 1 ☐	2 ☐
Change permanently to an easier job?	(563) 1 ☐	2 ☐
Change temporarily to an easier job?	(564) 1 ☐	2 ☐
Cut down to part-time work only?	(565) 1 ☐	2 ☐
Have to stop working for a few months?	(566) 1 ☐	2 ☐
Have to cut down on housework?	(567) 1 ☐	2 ☐
Stop doing any housework?	(568) 1 ☐	2 ☐
Moke some other change? – Specify _____	(569) 1 ☐	2 ☐

CHECK ITEM K

(570) 1 ☐ Under 19 (76)
2 ☐ 19-59 (80)
3 ☐ 60+ (78)

76a. Is -- attending school now?

(571) 1 ☐ Yes
2 ☐ **No** (80)

b. What is the **name** and address of the school he goes to?

Name

Address (Number and street)

City | State | ZIP code

77a. Is there a school lunch progrom ot the school he attends?

(572) 1 ☐ Yes
2 ☐ No
9 ☐ DK } (77d)

b. How many times a week does he usually participate?

(573) T i m e s
o ☐ **None** (77d)

c. How much does he pay for his lunch per day?

(574) C e n t s
o ☐ Free

d. Is there a special milk program at the school he attends?

(575) 1 ☐ Yes
2 ☐ No
9 ☐ DK } (77g)

e. How much does he pay for his milk per day?

(576) _____ Cents
o ☐ Free

f. How many times a week does he usually participate?

(577) _____ Times
o ☐ None

g. Is there a school breakfast program at the school he attends?

(578) 1 ☐ Yes
2 ☐ No
9 ☐ DK } (80)

h. How many times a week does he usually participate?

(579) T i m e s
o ☐ **None** (60)

i. How much does he pay for his breakfast per day?

(580) C e n t s
o ☐ Free } (80)

78a. Do you porticpote in ony program in which prepared meals OR groceries ore delivered to your home on a regular basis?

(581) 1 ☐ Yes
2 ☐ No (79)

b. Are prepared meals or groceries delivered to your home?

(582) 1 ☐ Prepared meals only
2 ☐ Groceries only
3 ☐ Both
4 ☐ Other — Specify _____

c. Is the sponsor of the program —

		Yes	No
A local health department?	(583)	1 ☐	2 ☐
Another department of local government?	(584)	1 ☐	2 ☐
A State government?	(585)	1 ☐	2 ☐
A church group?	(586)	1 ☐	2 ☐
Some other voluntary orgoniration? Specify . . .	(587)	1 ☐	2 ☐

d. About how often is the food brought to your home?

(588) 1 ☐ Two or three times a day
2 ☐ Once a day
3 ☐ Four to six times a week
4 ☐ Two or three times a week
5 ☐ Once a week
6 ☐ Two or three times a month
7 ☐ Once a month
8 ☐ Less than once a month
9 ☐ Other — Specify _____

Notes

(589)

(590)

79a. Do you participate on o regular basis in any programs in which you go out to a place where meals are served to groups of people?

(591) 1 ☐ Yes
2 ☐ No (80)

b. Is the sponsor of the program –

	Yes	No
A local health deportment?	(592) 1 ☐	2 ☐
Another department of local government?	(593) 1 ☐	2 ☐
A State government?	(594) 1 ☐	2 ☐
A church group?	(595) 1 ☐	2 ☐
Some other voluntary organization? Specify ▶	(596) 1 ☐	2 ☐

c. About how often do you go out for these meals?

(597)
1 ☐ Two or three times a day
2 ☐ Once a day
3 ☐ Four to six times a week
4 ☐ Two or three times a week
5 ☐ Once a week
6 ☐ Two or three times a month
7 ☐ Once a month
8 ☐ Less than once a month
9 ☐ Other – Specify _____

80. RESPONDENT
Mark main respondent

(598)
1 ☐ Sample person
2 ☐ Mother
3 ☐ Father
4 ☐ Sister or brother
5 ☐ Other – Specify _____

CHECK ITEM L

(599)
1 ☐ Another SP available for interview (Next *Medical* History *Questionnaire*)
2 ☐ No other SP available for interview (Page *3 of the Household Questionnaire*)

FORM HRA-1 1-2
(3-17-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

HEALTH HISTORY SUPPLEMENT
(Ages 12–74 Years)

HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved
O.M.B. No. 68-R 1502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and wil I not be disclosed or released to others for any purpose.

a. Examinee name (First, middle *initial*, last)	b. Deck No.	c. Sample No.
	305	0 0 0 - L - - - - - - -

d. Sex	e. Age	f. Interviewer name	g. Interviewer No.
☐ Male ☐ Female	- -		0 0 1 — —

READ – I'd like to ask you some questions about health problems or conditions you might have had in the past or might have at the present time.

INTERVIEWER CHECK ITEM I (102) 1 ☐ 25 or over ask Question 1
2 ☐ Under 25 SKIP TO Question 17

1a. Have you ever hod any trouble with pain, discomfort or pressure in your chest when you walk fast or uphill?

(103) 1 ☐ Yes
2 ☐ No – *SKIP to 2a*

b. Would you describe this pain as any of the following?

		Yes	No
Heaviness	(104)	1 ☐	2 ☐
Burning sensation	(105)	1 ☐	2 ☐
Tightness	0(106)	1 ☐	2 ☐
Stabbing pain	(107)	1 ☐	2 ☐
Pressure	(108)	1 ☐	2 ☐
Sharp pain	(109)	1 ☐	2 ☐
Shooting pains	(110)	1 ☐	2 ☐

c. Have you had the pain or discomfort more than THREE times?

(111) 1 ☐ Yes
2 ☐ No

d. Have you been bothered by the pain or discomfort within the past 12 months?

0(112) 1 ☐ Yes
2 ☐ No

e. How old were you when you first had the pain or discomfort?

(113) 1 ☐ Under IO years old
2 ☐ IO-19 years old
3 ☐ 20-29 years old
4 ☐ 30-39 years old
5 ☐ 40-49 years old
6 ☐ 50–59 years old
7 ☐ 60 years or older

f. DO you get the pain or discomfort if you walk at an ordinary pace on level ground?

0(114) 1 ☐ Yes
2 ☐ No

1. *Continued*

g. If you get the pain or discomfort while walking do you –

		Yes	No
Stop?	(115)	1 ☐	2 ☐
Slow down?	(116)	1 ☐	2 ☐
Continue at the some pace?	07	1 ☐	2 ☐
Take medicine?	(118)	1 ☐	2 ☐

h. If you do stop or slow down, is the pain or discomfort relieved or not?

(119) 1 ☐ Relieved – Ask *i*

2 ☐ Not relieved – SKIP to j

i. How soon is the pain relieved?

00 1 ☐ Less than 10 minutes

2 ☐ 10 minutes or more

j. When you get pain or discomfort where is it located? Is it in the –

		Yes	No
Upper middle chest?	(121)	1 ☐	2 ☐
Lower middle chest?	(122)	1 ☐	2 ☐
Left side of chest?	(123)	1 ☐	2 ☐
Left arm?	(124)	1 ☐	2 ☐
Right side of chest?	(125)	1 ☐	2 ☐
Some other place? Specify	(126)	1 ☐	2 ☐

k. Do any of the following things tend to bring the pain or discomfort on?

		Yes	No
Excitement or emotion	(127)	1 ☐	2 ☐
Stooping over	(128)	1 ☐	2 ☐
Eating a heovy meal	(129)	1 ☐	2 ☐
Coughing spells	130	1 ☐	2 ☐
Cold wind	(131)	1 ☐	2 ☐
Exertion	(132)	1 ☐	2 ☐

2a. Have you ever had severe pain across the front of your chest lasting for half an hour or more?

(133) 1 ☐ Yes
2 ☐ No – SKIP to 3

b. How many of these attacks of poin have you hod?

(134) ☐ One
2 ☐ Two
3 ☐ Three
4 ☐ Four or more

c. What was the date of your last attack?

(135) ___ - Month (136) ___ - Year

d. What was the duration of the pain during your last attack?

(137) 1 ☐ 30–59 minutes
2 ☐ I-2 hours
3 ☐ 3-5 hours
4 ☐ 6–11 hours
5 ☐ 12-23 hours
6 ☐ 24-47 hours
7 ☐ 2 days or more

e. Did you see a doctor about this last attack?

(138) 1 ☐ Yes
2 ☐ No – SKIP to g

f. What did he say it was?

DATA PREPARATION USE ONLY

(139) 1 ☐ (140) 1 ☐
(141) 1 ☐ (142) 1 ☐
(143) 1 ☐ (144) 1 ☐
(145) 1 ☐ (146) 1 ☐

IF ENTRY IN 2f SK/P 7-O h; OTHERWISE ASK g

g. Have you ever seen a doctor about chest pains, chest discomfort or heart failure?

(147) 1 ☐ Yes
2 ☐ No – SKIP to i

h. What type of doctor was it? Was it a –

	Yes	No	Don't know
General Practitioner?	(148) 1 ☐	2 ☐	9 ☐
Internist?	(149) 1 ☐	2 ☐	9 ☐
Osteopath?	(150) 1 ☐	2 ☐	9 ☐
Heart specialist?	(151) 1 ☐	2 ☐	9 ☐
Some other medical person? – Specify _____	(152) 1 ☐	2 ☐	9 ☐

i. Have you ever stayed in a hospital overnight or longer because of your chest pains or a heart condition?

(153) 1 ☐ Yes
2 ☐ No

j. During the past 12 months, about how many work days would you estimate you have lost because of a heart condition?

(154) 1 ☐ None
2 ☐ 1–4 days
3 ☐ 5–9 days
4 ☐ 10–14 days
5 ☐ 15–19 days
6 ☐ 20-29 days
7 ☐ 30 days or more

SHORTNESS OF BREATH

3a. Have you ever had shortness of breath either when hurrying on the level or walking up a slight hill?

(155) 1 ☐ Yes — Ask b
2 ☐ No - SKIP to 4

b. Have you had this problem on most days for at least 90 days in the past year?

(156) 1 ☐ Yes
2 ☐ No

c. Do you get short of breath when walking with other people at an ordinary pace on level ground?

(157) 1 ☐ Yes
2 ☐ No

d. Do you have to stop for breath when walking at your own pace on level ground?

(158) 1 ☐ Yes
2 ☐ No

e. Do you have to stop for breath after walking about 100 yards or after a few minutes on level ground?

(159) 1 ☐ ✡♏♦
2 ☐ No

f. How long ago did you first have this trouble with shortness of breath?

(160) 1 ☐ Less than I year ago
2 ☐ I-3 years ago
3 ☐ 4-9 years ago
4 ☐ 10 years ago or more
9 ☐ Don't know

g. Have you gotten chest pains along with the shortness of breath?

(161) 1 ☐ ✡♏♦ - Ask h
2 ☐ No — SKIP to i

h. Were these pains located in the —

	Yes	No
Upper chest?	(162) 1 ☐	2 ☐
Upper back?	(163) 1 ☐	2 ☐
Lower back?	(164) 1 ☐	2 ☐
Along the lower ribs?	(165) 1 ☐	2 ☐
On the sides?	(166) 1 ☐	2 ☐

i. Do you develop wheezing as well as shortness of breath?

(167) 1 ☐ Yes
2 ☐ No

Notes

4a. Have you ever had pain in your back on most days for at least two weeks?

(168) 1 ☐ Yes
2 ☐ No – SKIP to 5

b. What is the longest episode of back pain you have ever had?

(169) 1 ☐ Less than one month
2 ☐ One but less than 2 months
3 ☐ 2-3 months
4 ☐ 4-5 months
5 ☐ 6 months or more
9 ☐ Don't remember

c. Where is the pain usually located?

In the –

	Yes	No
Upper back?	(170) 1 ☐	2 ☐
Mid-back?	(171) 1 ☐	2 ☐
Lower back?	(172) 1 ☐	2 ☐

If only one marked in c, mark *d* without asking.

d. When you have this back pain, where is it most intense?

	Yes	No
Upper back?	(173) 1 ☐	2 ☐
Mid-back?	(174) 1 ☐	2 ☐
Lower back?	(175) 1 ☐	2 ☐

e. Is the back pain usually present when you ore resting at night?

(176) 1 ☐ Yes
2 ☐ No

f. When you have the back pain does it awaken you from sleeping at night?

(177) 1 ☐
2 ☐ No

g. Does the back pain ever seem to spread?

(178) 1 ☐
2 ☐ – SKIP

h. Does it spread to the –

	Yes	No
Back of the right leg?	(179) 1 ☐	2 ☐
Back of the left leg?	(180) 1 ☐	2 ☐
Back of both legs?	(181) 1 ☐	2 ☐
Top of the head?	(182) 1 ☐	2 ☐
Sides of the body?	(183) 1 ☐	2 ☐

i. Is your back pain made worse –

	Yes	No
By coughing, sneezing, or deep breathing?	(184) 1 ☐	2 ☐
With bending or twisting motion?	(185) 1 ☐	2 ☐
After prolonged sitting?	(186) 1 ☐	2 ☐
After prolonged standing?	(187) 1 ☐	2 ☐
After prolonged activity?	(188) 1 ☐	2 ☐

4. Continued

j. How. old were you when you first experienced this recurring bock pain.?

(189) 1 ☐ Less than 20 years old
2 ☐ 20–29 years old
3 ☐ 30–39 years old
4 ☐ 40–49 years old
5 ☐ SO-59 years old
6 ☐ 60 years old or older

k. When was the last time you had this pain?

(190) 1 ☐ Have it now
2 ☐ Less than I year ago, but not now
3 ☐ I–2 years ago
4 ☐ 3–5 years ago
5 ☐ 6 years ago or more

l. Does this back pain occur more frequently now than it used to occur?

(191) 1 ☐ Yes
2 ☐ No

m. Has this back pain usually been mild, moderate or severe?

(192) 1 ☐ Mild
2 ☐ Moderate
3 ☐ Severe

n. Have you ever had a sprained back due to some type of physical activity?

(193) 1 ☐
2 ☐ No

o. Have you ever had a disc problem in either your back or neck?

(194) 1 ☐ Yes
2 ☐ No – SKIP to u

p. Was the problem a ruptured disc?

(195) 1 ☐ Yes
2 ☐ No

q. Was the disc problem in your back or neck?

(196) 1 ☐ Back
2 ☐ Neck
3 ☐ Both

r. How old were you when you first had the di sc problem?

(197) ___ ___ Years old

s. Were you in traction?

(198) 1 ☐ Yes
2 ☐ No

t. Was surgery necessary?

(199) 1 ☐ Yes
2 ☐ No

u. Have you ever stayed in a hospital overnight or longer for back pain?

(200) 1 ☐ Yes
2 ☐ No

5a. Hove you ever hod poin in your neck on most doys for at least two weeks?	(201) 1 ☐ Yes 2 ☐ No – SKIP TO INTERVIEWER CHECK ITEM II
b. Whot is the longest episode of neck pain you hove ever hod?	(202) 1 ☐ Less than one month 2 ☐ One but less than two months 3 ☐ 2-3 months 4 ☐ 4-5 months 5 ☐ 6 months or more s ☐ Don't remember
c. Is the neck pain present when you are resting at night?	(203) 1 ☐ Yes 2 ☐ No
d. Does the neck poin ever seem to spreod?	(204) ☐ ✡ 2 ☐ ☒ – SKIP ♦ ☐ f

e. Does it spread to –		Yes	No
The top ond back of the head?	(205)	1 ☐	2 ☐
Either shoulder area?	(206)	1 ☐	2 ☐
The arms or hands?	(207)	1 ☐	2 ☐
Other? – Specify _____	(208)	1 ☐	2 ☐

f. Is your neck poin made worse –		Yes	No
By coughing, sneezing, or deep breathing?	(209)	1 ☐	2 ☐
With bending or twisting motion?	(210)	1 ☐	2 ☐
After prolonged activity?	(211)	1 ☐	2 ☐
After prolonged sitting?	(212)	1 ☐	2 ☐
After prolonged stonding?	(213)	1 ☐	2 ☐

g. How old were you when you first experienced this recurring neck poin?	(214) 1 ☐ Less than 20 years old 2 ☐ 20–29 years old 3 ☐ 30–39 years old 4 ☐ 40–49 years old 5 ☐ 50–59 years old 6 ☐ 60 years old or older
h. When was the last time you hod this pain?	(215) 1 ☐ Have it now 2 ☐ Less than I year ago but not now 3 ☐ I-2 years ago 4 ☐ 3–5 years ago 5 ☐ 6 years ago or more
i. Does this neck poin occur more frequently now thon it used to occur?	(216) 1 ☐ Yes 2 ☐ No
j. Has this neck pain usually been mild, moderate, of severe?	(217) 1 ☐ Mild 2 ☐ Moderate 3 ☐ Severe
k. Have you ever hod a "whiplash" injury of the neck?	(218) 1 ☐ Yes 2 ☐ No

INTERVIEWER CHECK ITEM II – If "Yes" in Questions 4a or 5a, (i.e., back pain or neck pain), ask questions 6–10; otherwise SKIP to Question 11

6a. Have you ever used any of the following kinds of treatment for your back or neck trouble?	Yes	No	6b. Did it do you any good? Yes	No
Splints or casts	219 1 ☐	2 ☐	220 1 ☐	2 ☐
Braces	221 1 ☐	2 ☐	222 1 ☐	2 ☐
Diathermy or paraffin	223 1 ☐	2 ☐	224 1 ☐	2 ☐
Hot packs or heating pads	225 1 ☐	2 ☐	226 1 ☐	2 ☐
Cold packs or ice	227 1 ☐	2 ☐	228 1 ☐	2 ☐
Rest	229 1 ☐	2 ☐	230 1 ☐	2 ☐
Traction	231 1 ☐	2 ☐	232 1 ☐	2 ☐
Exercises or physical therapy	233 1 ☐	2 ☐	234 1 ☐	2 ☐
Aspirin	235 1 ☐	2 ☐	236 1 ☐	2 ☐
Cane	237 1 ☐	2 ☐	238 1 ☐	2 ☐
Crutch	239 1 ☐	2 ☐	240 1 ☐	2 ☐
Stiff mattress	241 1 ☐	2 ☐	242 1 ☐	2 ☐
Bed board	243 1 ☐	2 ☐	244 1 ☐	2 ☐

If "Yes" to 6a and b, ask:

c Are you now using it regularly for your back or neck trouble?	Yes	No
Splints or casts	245 1 ☐	2 ☐
Braces	246 ☐	2 ☐
Diathermy or paraffin	247 1 ☐	2 ☐
Hot packs or heating pads	248 1 ☐	2 ☐
Cold packs or ice	249 1 ☐	2 ☐
Rest	250 1 ☐	2 ☐
Traction	251 1 ☐	2 ☐
Exercises or physical therapy	252 1 ☐	2 ☐
Aspirin	253 1 ☐	2 ☐
Cane	254 1 ☐	2 ☐
Crutch	255 1 ☐	2 ☐
Stiff mattress	256 1 ☐	2 ☐
Bed board	257 1 ☐	2 ☐

7a. At the present time, does your back or neck condition restrict your physical activity very little, quite a bit, or a whole lot?

(258)
1 ☐ Very little
2 ☐ Quite a bit
3 ☐ A whole lot

b. Have you ever had to stay in bed at home for long periods of time because of your back or neck trouble?

(259)
1 ☐ Yes
2 ☐ No

c. Have you ever stayed overnight in a hospital because of back or neck problems?

(260)
1 ☐ Yes
2 ☐ No

8. With respect to your back or neck trouble, would you say your condition is mild, moderate, or severe?

(261)
1 ☐ Mild
2 ☐ Moderate
3 ☐ Severe

9a. At any time during the past year did your back or neck trouble cause you to cut down on the things you usually do?

(262)
1 ☐ Yes
2 ☐ No – SKIP to 10

b. During the past year, about how many days did you cut down on your activity?

(263) ___ ___ ___ Days
ooo ☐ None – SKIP to 10

c. During the past year, about how many days did your condition keep you from work or school, not counting work around the house?

(264) ___ ___ ___ Days
ooo ☐ None

d. During the past year about how many days did your condition limit the kind or amount of work around the house you could do?

(265) ___ ___ ___ Days
☐☐☐ ☐ None–SKIP to 10

e. During the past year, about how many days has this condition kept you in bed all or most of the day?

(266) ___ ___ ___ Days
ooo ☐ None

10a. Have you ever had pain, swelling, or stiffness in your back or neck as the result of an accident or injury?

(267)
1 ☐ Yes – back
2 ☐ Yes – neck
3 ☐ Yes – both
4 ☐ No – SKIP to 11

b. Do you think the accident or injury is the cause of any pain, swelling, or stiffness which might still be present?

(268)
1 ☐ Yes
2 ☐ No
9 ☐ Don't know

11a. Hove you ever been **treated** by **a medical** person for bock or neck trouble?

269 1 ☐ Yes
2 ☐ No – *SKIP* to 13

b. Was the **medical person a –**

	Yes	No
General practitioner?	270 1 ☐	2 ☐
Internist?	271 1 ☐	2 ☐
Rheumotologi st?	272 1 ☐	2 ☐
Orthopedist?	273 1 ☐	2 ☐
Chiropractor?	274 1 ☐	2 ☐
Osteopath?	275 1 ☐	2 ☐
Physical therapist?	276 1 ☐	2 ☐
Occupotionol therapist?	277 1 ☐	2 ☐
Other? – Specify _____	278 1 ☐	2 ☐

c. Whot did he soy the problem was?

_____

_____

DATA PREPARATION USE ONLY

279 1 ☐ 280 1 ☐
281 1 ☐ 282 1 ☐
283 1 ☐ 284 1 ☐

d. Are you now being treated by a medical person for bock or neck trouble?

285 1 ☐ Yes
2 ☐ No – *SKIP* to I2

e. Is this a –

	Yes	No
General practitioner?	286 1 ☐	2 ☐
Internist?	287 ☐	2 ☐
Rheumotologi st?	288 1 ☐	2 ☐
Orthopedist?	289 1 ☐	2 ☐
Chiropractor?	290 1 ☐	2 ☐
Osteopath?	291 1 ☐	2 ☐
Physical therapist?	292 1 ☐	2 ☐
Occupotionol therapist?	293 1 ☐	2 ☐
Other? – Specify _____	294 1 ☐	2 ☐

f. What did he soy the problem wos?

_____

_____

DATA PREPARATION USE ONLY

295 1 ☐ 296 1 ☐
297 1 ☐ 298 1 ☐
299 1 ☐ 300 1 ☐

12a. Hove you ever hod on **operation for a** bock or neck diseose or injury?

301 1 ☐ Yes
2 ☐ No – *SKIP to 13*

b. Was it your bock or neck?

302 1 ☐ Back
2 ☐ Neck
3 ☐ Both

c. What was the operation?

13a. Hove you hod poin or **aching** in ony **joint** other thon the bock or neck on most days for ot **least** six weeks?

303 1 ☐ Yes – *Ask b and c*
2 ☐ No – *SKIP to 14*

b. Which joints were poinful?

	Yes	No	c. If "Yes," – Which? Right	Left	Both
Fingers	304 1 ☐	2 ☐	305 1 ☐	2 ☐	3 ☐
Wrist	306 1 ☐	2 ☐	307 1 ☐	2 ☐	3 ☐
Elbow	308 1 ☐	2 ☐	309 1 ☐	2 ☐	3 ☐
Shoulder	310 1 ☐	2 ☐	311 1 ☐	2 ☐	3 ☐
Hip	312 1 ☐	2 ☐	313 1 ☐	2 ☐	3 ☐
Knee	314 1 ☐	2 ☐	315 1 ☐	2 ☐	3 ☐
Ankle	316 1 ☐	2 ☐	317 1 ☐	2 ☐	3 ☐
Foot	318 1 ☐	2 ☐	319 1 ☐	2 ☐	3 ☐

d. When **was** the lost time you hod this poin?

320 1 ☐ Have it now
2 ☐ Less than I year ago, but not now
3 ☐ 1–2 years ago
4 ☐ 3–5 years ago
5 ☐ 6 years ago or more

14a. Have you ever had any swelling of joints with pain present when the joint was touched on most days for at least one month?

1 ☐ Yes – Ask *b*

2 ☐ No – [illegible]

b. Has this swelling been present on any one occasion for at least six weeks?

1 ☐ Yes

2 ☐ No

c. Which joints are usually involved whenever you have this swelling and tenderness on touching?

d. If "Yes," – Which?

	Yes	No	Right	Left	Both
Fingers	323 1 ☐	2 ☐	324 1 ☐	2 ☐	3 ☐
Wrists	325 1 ☐	2 ☐	326 1 ☐	2 ☐	3 ☐
Elbows	327 1 ☐	2 ☐	328 1 ☐	2 ☐	3 ☐
Shoulders	329 1 ☐	2 ☐	330 1 ☐	2 ☐	3 ☐
Hips	331 1 ☐	2 ☐	332 1 ☐	2 ☐	3 ☐
Knees	333 1 ☐	2 ☐	334 1 ☐	2 ☐	3 ☐
Ankles	335 1 ☐	2 ☐	336 1 ☐	2 ☐	3 ☐
Feet	337 1 ☐	2 ☐	338 1 ☐	2 ☐	3 ☐

e. How old were you when you first experienced this swelling of the joints?

339 1 ☐ Less than 20 years old

2 ☐ 20-29 years old

3 ☐ 30–39 years old

4 ☐ 40–49 years old

5 ☐ 50-59 years old

6 ☐ 60 years old or older

f. When was the last time you had this?

340 1 ☐ Now

2 ☐ Less than I year ago, but not now

3 ☐ I-2 years ago

4 ☐ 3-5 years ago

5 ☐ 6 years ago or more

15a. Have you had stiffness in your joints and muscles when first getting out of bed in the morning on most mornings for at least one month?

(341) 1 ☐ Yes – Ask *b*
2 ☐ No – SKIP to 16

b. Has this morning stiffness been present on any one occasion for at least six weeks?

(342) 1 ☐ Yes
2 ☐ No

c. Which joints are usually involved whenever you have this morning stiffness?

	Yes	No	d. If "yes," – Which? Right	Left	Both
Fingers	(343) 1 ☐	2 ☐	(344) 1 ☐	2 ☐	3 ☐
Wrists	(345) 1 ☐	2 ☐	(346) 1 ☐	2 ☐	3 ☐
Elbows	(347) 1 ☐	2 ☐	(348) 1 ☐	2 ☐	3 ☐
Shoulders	(349) 1 ☐	2 ☐	(350) 1 ☐	2 ☐	3 ☐
Hips	(351) 1 ☐	2 ☐	(352) 1 ☐	2 ☐	3 ☐
Knees	(353) 1 ☐	2 ☐	(354) 1 ☐	2 ☐	3 ☐
Ankles	(355) 1 ☐	2 ☐	(356) 1 ☐	2 ☐	3 ☐
Feet	(357) 1 ☐	2 ☐	(358) 1 ☐	2 ☐	3 ☐
Back	(359) 1 ☐	2 ☐			

e. How long after getting up and moving around does the morning stiffness last?

(360) ☐ Less than 15 minutes
2 ☐ 15 minutes to one half hour
3 ☐ More than one half hour, but less than all day
4 ☐ All day

f. How old were you when you first experienced this morning stiffness of joints?

(361) 1 ☐ Less than 20 years old
2 ☐ 20-29 years old
3 ☐ 30-39 years old
4 ☐ 40-49 years old
5 ☐ 50-59 years old
6 ☐ 60 years old or older

g. When was the last time you had this?

(362) 1 ☐ **Now**
2 ☐ Less than 1 year ago, but not now
3 ☐ 1-3 years ago
4 ☐ 4-9 years ago
5 ☐ 10 years ago or more

16a. Have you ever had a job which placed frequent stress or strain on your back?	363 1 ☐ Yes 2 ☐ *No -SK/P to 17*
b. How long did you work at that kind of job?	(364) ___ ___ Months OR 365 ___ ___ Years
17. Has a doctor ever told you that you had mononucleosis?	(366) 1 ☐ Yes 2 ☐ No
18a. Have you ever had yellow jaundice which caused your skin or eyes to turn yellow?	(367) 1 ☐ ✡ℳ• 2 ☐ No – SKIP to g
b. When this happened, did your urine become darker?	(368) 1 ☐ Yes 2 ☐ *No*
c. Did your stools become lighter in color?	(369) 1 ☐ Yes 2 ☐ No
d. Did your skin remain yellow for a month or longer?	(370) 1 ☐ Yes 2 ☐ No
e. Have you had yellow jaundice more than once?	(371) 1 ☐ Yes 2 ☐ No - *SKIP* to *g*
f. How many times did you have it?	(372) ___ ___ Times
g. As far as you know, hove you ever been in contact with a person who may have had yellow jaundice?	(373) 1 ☐ ✡ℳ• 2 ☐ *No* 9 ☐ Don't know
19. Have you ever had an operation for a hernia not including hiatus hernia of the diaphragm?	(374) 1 ☐ Yes 2 ☐ *No*
20. How many times have you used or had any contact with carbon tetrochloride? (Used, for example, in dry cleaning)	(375) o ☐ None 1 ☐ Once 2 ☐ 2-4 times 3 ☐ 5-9 times 4 ☐ 10 or more times 9 ☐ Don't know

21a. Are pesticides, such os weed killers, insecticides, fungicides and other chemicals used for pest control, used in your –

		Yes	No	Don't know
Home?	(376)	1 ☐	2 ☐	9 ☐
Garden?	(377)	1 ☐	2 ☐	9 ☐
Yard?.	(378)	1 ☐	2 ☐	9 ☐
Place of employment?	(379)	1 ☐	2 ☐	9 ☐
Anywhere else around you? – Specify:	(380)	1 ☐	2 ☐	9 ☐

If ALL "NO's" in *21a,* ask b; otherwise *ask* c

b. To your knowledge are any pesticides used around you?

(381) 1 ☐ Yes
2 ☐ No

c. During the past 12 months, has anyone in your family had pesticide poisoning diagnosed by a doctor?

(382) 1 ☐ Yes
2 ☐ No

d. During the past 12 months, has your home or place of employment been treated for pest control by a commercial company?

(383) 1 ☐ Yes
2 ☐ No

e. Are any disinfectants, such as Lysol or Pine Oil, used in your home?

(384) 1 ☐ Yes
2 ☐ No

If Age 12–17, ask 22; otherwise SKIP to Question 23

22a. Have you smoked at least 100 cigarettes during your entire life?

(385) 1 ☐ Yes – As *k b*
2 ☐ No – *SKIP* to 23

b. Do you smoke cigarettes now?

(386) 1 ☐ Yes – Ask *c*
2 ☐ No – *SKIP* to d

c. On the average, about how many a day do you smoke?

(387) ___ ___ Cigarettes. per day
Enter answer and *SKIP* to e

d. How long has it been since you smoked cigarettes fairly regularly?

(388) 77 ☐ Under one year – Ask e
___ ___ Years – *Enter number of years and* SKIP to *f*
88 ☐ Never smoked cigarettes regularly – *SKIP* to 23
99 ☐ Don't know – Ask e

e. On the average, about how many cigarettes a day were you smoking 12 months ago?

(389) ___ ___ Cigarettes per day
88 ☐ Did not smoke
99 ☐ Don't know

f. During the period when you were smoking the most, about how many cigarettes a day did you usually smoke?

(390) ___ ___ Cigarettes per day
99 ☐ Don't know

g. About how old were you when you first started smoking cigarettes fairly regularly?

(391) ___ ___ Years old
88 ☐ Never smoked regularly
99 ☐ Don't know

23a. Did a doctor ever tell you that you had chronic kidney disease?	(392) ❑ 1 2 ☐ No
b. Have you ever had pain or burning sensation on urination accompanied by more frequent urination than usual?	(393) 1 ☐ Yes 2 ☐ No – SKIP to 24
c. How many separate times has this happened?	(394) ___ ___ Times
24. Do you NOW have difficulty starting to urinate?	(395) 1 ☐ Yes 2 ☐ No
25. Do you NOW have periods of waking from sleep two or three times a night to urinate?	(396) 1 ☐ Yes 2 ☐ No
26a. Have you ever noticed blood in your urine? (FOR WOMEN – other than at the time of your period)	(397) 1 ☐ Yes 2 ☐ No – SKIP to 27a
b. How many separate times has this happened?	@ - - Times
c. When was the last time it happened?	(398) 1 ❑ Less than I year ago, but not now 2 ❑ I-2 years ago 3 ☐ 3-5 years ago 4 ☐ 6 years ago or more

Notes

27a. Have you ever noticed that your urine was a different color than the usual yellow? (FOR WOMEN – other than at the time of your period)

(400) 1 ☐ ✡♏♦
2 ☐ No – SKIP to 28

b. How many different times has this happened?

(401) 1 ☐ Once
2 ☐ Twice
3 ☐ 3 or more
} SKIP to e

c. How old were you when it happened?

(402) Years old

d. How long did the change in color last?

403 1 ☐ One time
2 ☐ One day
3 ☐ 2-6 days
4 ☐ 1 week or longer
} SKIP to h

e. How old were you when it FIRST happened?

(404) ___ ___ Years old

f. How long ago did it last happen?

(405) ___ ___ Years ago

g. How long did the change in color last that time?

406 0 ☐ Less than one day

- - Days

h. Did you see a doctor about it?

407 1 ☐ ✡♏♦
2 ☐ No – SKIP to 28

i. What did the doctor say the problem was?

_____

28. Do you have trouble with your bowels which makes you constipated or gives you diarrhea?

408 1 ☐ ✡♏♦ – Constipation
2 ☐ Yes – Diarrhea
3 ☐ No

29a. Have your bowel movements ever been white, gray, dark black, or streaked with blood?

(409) 1 ☐ ✡♏♦
2 ☐ No – SKIP to Question 30a

b. Which was it?

	Yes	No
White	(410) 1 ☐	2 ☐
Gray	(411) 1 ☐	2 ☐
Dark black	(412) 1 ☐	2 ☐
Streaked with blood	(413) 1 ☐	2 ☐

30a. Do you hove a physical disability or handicap which prevents or limits normal daily activities, such as the kind or amount of work that you can do, housework, schoolwork, using public transportation and so on?

(414) 1 ☐ Yes
2 ☐ No – SKIP TO INTERVIEWER CHECK ITEM III

b. What is the physical disability or handicap?

_____

_____

c. How long have you had this disability or handicap?

(415) ___ Months
OR
(416) ___ ___ Years

d. Does this disability or handicap PREVENT you from. . . .

e. Does it LIMIT you in this activity?

	d. Yes	d. No	e. Yes	e. No
(Age 18 and over) working at a job or business?	(417) 1 ☐	2 ☐	(418) 1 ☐	2 ☐
(Age 18 and over) driving a car?	(419) 1 ☐	2 ☐	(420) 1 ☐	2 ☐
(Under age 18) doing any regular school work?	(421) 1 ☐	2 ☐	(422) 1 ☐	2 ☐
Using any public transportation such as buses, trains, and so on?	(423) 1 ☐	2 ☐	(424) 1 ☐	2 ☐
Taking care of any of your personal needs such as dressing or eating?	(425) 1 ☐	2 ☐	(426) 1 ☐	2 ☐
Doing work around the house?	(427) 1 ☐	2 ☐	(428) 1 ☐	2 ☐

INTERVIEWER CHECK ITEM III

(429) 1 ☐ Female – Ask Question 31
2 ☐ **Male** – END OF QUESTIONNAIRE

31a. How old were you when your periods or menstrual cycles started?

(430) ___ ___ Years – Ask b
02 ☐ Haven't started yet – END OF QUESTIONNAIRE

b. Have your periods stopped entirely -- not counting pregnancy?

(431) 1 ☐ Yes
2 ☐ No – SKIP to d

c. At what age?

(432) ___ ___ Years – SKIP to 32a

d. When did your last period or menstrual cycle end?

(433) 00 ☐ Having it now

___ ___ Days **ago**

320. Hove you token birth control pills during the past six months?	(434) 1 ☐ Yes – *Ask b* 2 ☐ No – *SKIP to 33a*
b. Are you taking them now?	(435) 1 ☐ Yes 2 ☐ No
33a. Have you EVER been pregnant?	(436) 1 ☐ Yes – *Ask b* 2 ☐ No – *END OF QUESTIONNAIRE*
b. What is the totol number of pregnancies you hove had?	(437) — — Number
c. What is the totol number of miscarriages you hove had?	(438) — — Number
d. What is the total number of live births you have hod?	(439) — — Number
e. Are you pregnant now?	(440) 1 ☐ Yes – *Ask f* 2 ☐ No 9 ☐ Don't know } *SKIP to g*
f. Which month of pregnancy are you in?	(441) — — Month
g. Have you had a pregnancy which ended within the last twelve months?	(442) 1 ☐ Yes–*Askh* 2 ☐ No – *END OF QUESTIONNAIRE*
h. How many months ago did that pregnancy end?	(443) 1 ☐ 10–12 months ago 2 ☐ 7–9 months ago 3 ☐ 4–6 months ago 4 ☐ 0–3monthsago
i. Are you breast feeding?	(444) 1 ☐ Yes 2 ☐ No

END OF QUESTIONNAIRE

Notes

Form Approved; O.M.B. No. 68-R1502

FORM PHS-6161 (12-79)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
OFFICE OF HEALTH RESEARCH, STATISTICS, AND TECHNOLOGY
NATIONAL CENTER FOR HEALTH STATISTICS

HEALTH AND NUTRITION EXAMINATION SURVEY II
DIETARY – 24 HOUR RECALL AND DIETARY FREQUENCY

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

Name of respondent

PUNCH A NEW CARD FOR EACH FOOD ITEM

Sample number	Segment	Serial	Column	Respondent code	Date of birth: Month	Day	Year	Sex	Weight (Pounds)	Date and day of week of recall: Month	Day	Year	Day	Ingestion period	Food code	Foods and beverages consumed: Food item	Description	Work area for computations (If needed)	Size of edible portion served: I	II	III	Time of day	Food source code	Line/Card No.
1–5	6–11	12–13	14–15	16	17–22			23	24–28	29–30	31–32	33–34	35	36	37–41				42–46	47–51	52–56	57–60	61	62–63
																								01
																								02
																								03
																								04
																								05
																								06
																								07
																								08
																								09
																								10
																								11
																								12
																								13
																								14
																								15
																								16
																								17
																								18
																								19
																								20
																								21
																								22
																								23
																								24
																								25
																								26
																								27
																								28
																								29
																								30
																								31
																								32
																								33
																								34
																								35
																								36
																								37
																								38
																								39
																								40
																								41
																								42
																								43
																								44
																								45
																								46

CODING GUIDE

Respondent code *(Column 16)*
1 – Sample person
2 – Spouse
3 – Parent
4 – Grandparent
5 – Combination of above
6 – Other

Sex code (use highest applicable code) *(Column 23)*
1 – Male
2 – Female except pregnant or breast feeding
3 – Pregnant (1–4 months)
4 – Pregnant (5–9 months)
5 – Breast feeding
6 – Breast feeding/pregnant (1–4 months)
7 – Breast feeding/pregnant (5–9 months)

Ingestion period code *(Column 36)*
1 – A.M.
2 – Noon
3 – Between meals
4 – P.M.
5 – Total day

Food source code *(Column 61)*
1 – Home
2 – School
3 – Restaurant
4 – Other

QUESTIONS FOR COLUMNS 64, 65, and 66

64. Is what you ate yesterday the way you usually eat?
1 – Yes
2 – No, ill
3 – No, no money
4 – No, Sunday or Holiday
5 – No, Other reason – *Specify* _____
☐ 64

65. Has your diet changed recently?
0 – No change
1 – Yes, eating more
2 – Yes, eating less
3 – Yes, on a prescribed diet – *Specify type* _____
☐ 65

66. How many times a week do you eat a meal at a restaurant?
0 – Seldom, never
1 – 1 – 3 times
2 – 4 – 6 times
3 – 7 or more times
☐ 66

DIETARY FREQUENCY

CODING

NUMBER OF TIMES CODE
00 – None or never
99 – Unknown
77 – Less than once a week

INTERVAL CODE
0 – Never
1 – Daily
2 – Weekly
7 – Less than once a week
9 – Unknown

	Repeat columns 1 – 16 from card No. 1	
	No. of times	Interval (0 / D1 / W2 / 7 / 9)
1. **Milk** (beverage and on cereals) and milk products	17–18	19
a. Whole fresh milk		
b. Skim milk or buttermilk	20–21	22
c. Ice milk, ice cream, or puddings made with milk	23–24	25
d. Cheese and cheese dishes	26–27	28
2. **Meats** (including beef, pork, lamb, veal, luncheon meats, canned meats)	29–30	31
3. **Poultry** (including chicken, turkey, duck, game birds, cornish hen, etc.)	32–33	34
4. **Organ meats** (including liver, kidney, heart, spleen, etc.)	35–36	37
5. **Fish or shellfish**	38–39	40
6. **Eggs**	41–42	43
7. **Soups** (milk and water based; gravies, sauces)	44–45	46
8. **Fats and oils** (including butter, margarine, salad oils, salad dressings, bacon, cream cheese, cream, peanut butter, non-dairy cream)	47–48	49
9. **Legumes and nuts** (including dry beans and peas like pinto beans, red beans, black eyed peas, peanuts, soy beans, soy products, etc.)	50–51	52
Card number	62–63	4 | 7

CONTINUE IN NEXT COLUMN

	Repeat columns 1 – 16 from card No. 1	
	No. of times	Interval (0 / D1 / W2 / 7 / 9)
10. **Cereals** – Breakfast cereals either dry as cornflakes or cooked such as oatmeal	17–18	19
a. **Grain, grain products** (including bread, rolls, biscuits, muffins, corn bread, crackers, pretzels)	20–21	22
11. **Fruits and vegetables** a. All kinds, fresh, canned, frozen cooked, or raw; juices, (including Tang or fruit drinks)	23–24	25
b. Fruits and vegetables rich in vitamin A (See guidelines)	26–27	28
c. Fruits and vegetables rich in vitamin C (See guidelines)	29–30	31
12. **Sugar and primarily sugar products** (including all candy, koolaid, soft drinks, lemonade, limeade)	32–33	34
13. **Desserts and sweets** (including cake, pie, cookies, fruit puddings, jello, sherbet, sweet snacks) Exceptions: ice cream, ice milk	35–36	37
15. **Mixed protein dishes with starch** (including casseroles, pot pies, pizza, spaghetti with meat, etc.) Exceptions: Plain cheese dishes	38–39	40
16. **Alcoholic beverages** a. Beer	41–42	43
b. Wine	44–45	46
c. Distilled liquor	47–48	49
17. **Sugar free and low caloric beverages** a. Cold drinks, as above, artifically sweetened or "Diet Drinks"	50–51	52

CONTINUE IN NEXT COLUMN

	No. of times	Interval (0 / D1 / W2 / 7 / 9)
17. **Sugar free and low caloric beverages** – Continued b. Coffee or tea	53–54	55
18. **Salty snacks** (including potato chips, corn chips, puffed snacks, cheese snacks, salted popcorn, etc.)	56–57	58
19. **Completion code** (Dietary frequency)		60
Card number		62–63 | 4 | 8

20. **Are you taking vitamins or minerals?**
0 – No
1 – Yes, regularly
2 – Yes, irregularly
If "Yes," Dietary interviewer see your guidlines — 67

Vitamin/Mineral codes
0 – Unknown, prescriptions
1 – Multiple vitamins
2 – Multiple vitamins with additional supplements
3 – Multiple vitamins and minerals
4 – Multiple vitamins and minerals with additional supplements
5 – Iron
6 – Multiple vitamins with iron
7 – Iron with additional supplements
8 – Geritol
9 – Vitamin E
10 – Vitamin E with additional supplements
11 – Vitamin A
12 – Vitamin A with additional supplements
13 – Vitamin D
14 – Vitamin D with additional supplements
15 – Vitamin C
16 – Vitamin C with additional supplements
17 – Calcrum
18 – Calcium with additional supplements
19 – Magnesium
20 – Magnesium with additional supplements
21 – Zinc
22 – Zinc with additional supplements
23 – B vitamins/B-complex
24 – B vitamins/B-complex with additional supplements
25 – Potassium
26 – Potassium with additional supplements
27 – Fluoride
28 – Fluoride with additional supplements
29 – Miscellaneous: cod liver oil, brewer's yeast, kelp, lecthicin, yeast tablets, alfalfa tablets, liver tablets, formula 25, iodine, bone meal, bone marrow, protein pills, amino acid pills, energolwheat germ concentrate
30 – N.A.
Other – *Specify*

68–69

INTERVIEWER: Ask only if respondent is age 20 or over.

21. **How often do you use the salt shaker at the table?**
0 – Rarely, never
1 – Occasionally, seldom
2 – Frequently, always
8 – N.A. — 70

22. Interviewer's code — 75–77

23. Completion code – *Explain any completion code other than "1" (24-hour recall)*
1 – Completed satisfactory
2 – Unsatisfactory
3 – Refusal
4 – Not available
5 – Informant incapable
6 – Other — 78

Card number 79–80 \| 4 \| 9

FORM PHS-8161 (12-78)

GPO 907-342

Dietary Supplement, Ages 12-74 Years

FORM HRA-11-3
(5-17-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

HEALTH AND NUTRITION EXAMINATION SURVEY II
DIETARY SUPPLEMENT AGES 12-74

Form Approved; O.M.B. No. 68-R1502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to others for any purpose.

a. Deck number (1-3)	b. Age (4-5)	c. Sample number (6-10)
313	--	-----

INSTRUCTIONS This section of the examination contains questions about diets, medicines and problems you might have that can affect your nutrition: For each question check the answer box which best applies to you.

1o. Are you on a special diet?	(11) 1 ☐ YES	2 ☐ NO – *SKIP to question 2a*

b. If "YES," is this diet –

	YES	NO
To lose weight?	(12) 1 ☐	2 ☐
To gain weight?	(13) 1 ☐	2 ☐
For diabetes?	(14) 1 ☐	2 ☐
For kidney failure?	(15) 1 ☐	2 ☐
For ulcers?	(16) 1 ☐	2 ☐
For diverticulitis?	(17) 1 ☐	2 ☐
For allergies?	(18) 1 ☐	2 ☐
For heart trouble?	(19) 1 ☐	2 ☐
For high blood pressure?	(20) 1 ☐	2 ☐
FEMALES ONLY – For pregancy?	(21) 1 ☐	2 ☐
For ony other reason?	(22) 1 ☐	2 ☐

If "YES," give the reason _____

c. What kind of diet is it –

Is it –

	YES	NO
Low fat?	(23) 1 ☐	2 ☐
Low protein?	(24) 1 ☐	2 ☐
High protein?	(25) 1 ☐	2 ☐
Low salt?	(26) 1 ☐	2 ☐
Low carbohydrate?	(27) 1 ☐	2 ☐
Low sugar?	(28) 1 ☐	2 ☐
Low calorie?	(29) 1 ☐	2 ☐
Low cholesterol?	(30) 1 ☐	2 ☐
High calorie?	(31) 1 ☐	2 ☐
Vegetarian with animal by-products (eggs, dairy, etc.)?	(32) 1 ☐	2 ☐
Vegetarian without onimol by-products?	(33) 1 ☐	2 ☐
A blond diet?	(34) 1 ☐	2 ☐
Some other type?	(35) 1 ☐	2 ☐

If "YES," describe the type of diet _____

d. About how long have you been on this diet? *Specify how many weeks, months, OR years*	(36-37) _____ weeks	
	(38-39) _____ months	
	(40-41) _____ years	
. Was this diet prescribed by o doctor, o dietition, or o nurse?	(42) 1 ☐ YES	2 ☐ NO

2a. Have you token any of the following medicines or drugs within the PAST WEEK –	YES	NO	b. If "YES," did you toke it during the last 24 hours? YES	NO
Diuretics or pills for woter loss?	(43) 1 ☐	2 ☐	(44) 1 El	2 ☐
Other medicines to lose weight except fluid pills?.	(45) 1 ☐	2 ☐	(46) 1 ☐	2 ☐
Hormones?	(47) 1 ☐	2 ☐	(48) 1 ☐	2 ☐
Steroids?	(49) 1 ☐	2 ☐	(50) 1 ☐	2 ☐
FEMALES – Birth control pills?	(51) 1 ☐	2 ☐	(52) 1 ☐	2 ☐
Dilantin, used to treat epilepsy or seizures?	(53) 1 ☐	2 ☐	(54) 1 ☐	2 ☐
Medicine for lowering cholesterol?	(55) 1 ☐	2 ☐	(56) 1 ☐	2 ☐
Antihistamines (cold or hayfever pills)?	(57) 1 ☐	2 ☐	(58) 1 ☐	2 ☐
INH (Isoniazide, a drug used for TB treatment and prophylaxis)?	(59) 1 ☐	2 ☐	(60) 1 ☐	2 ☐

- *IF YOU ARE 19 YEARS OLD OR YOUNGER YOU HAVE FINISHED THE FORM. THANK YOU FOR YOUR YOUR* COOPERATION.
- *IF YOU ARE 20 YEARS OLD OR OLDER, PLEASE ANSWER QUESTIONS 3 AND 4.*

3. Do any of the following problems FREQUENTLY prevent you from obtaining the groceries you need?	YES	NO
Lack of transportation	(61) 1 ☐	2 ☐
Lack of enough money	(62) 1 ☐	2 ☐
A health problem – Specify _____	(63) 1 ☐	2 ☐
Any other problem – Specify _____	(64) 1 ☐	2 ☐

4. Do you FREQUENTLY have –	YES	NO
Trouble swallowing your food?	(65) 1 ☐	2 ☐
Pain or discomfort in your rtomoch ofter ● oting?	(66) 1 ☐	2 ☐
Spells of vomiting?	(67) 1 ☐	2 ☐
Spells of nausea?	(68) 1 ☐	2 ☐
Loss of appetite?	(69) 1 ☐	2 ☐

Form completed by – (70) 1 ☐ Examines
2 ☐ Interviewer – *Specify name*

Comments

Medications/Vitamin Usage

FORM HRA-12-18
(5-19-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

HEALTH AND NUTRITION EXAMINATION SURVEY II
MEDICATIONS/VITAMIN USAGE

Form Approved; O.M.B. No. 68-R1502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Name of examinee	b. Deck number	c. Sample number
	304	_ _ _ _ _

INSTRUCTIONS

Please answer the following questions about the person whose name appears above. The questions refer only to the person named above. For persons scheduled for an examination who are under 18 years of age, a parent, guardian; or someone else who can provide the information about the child or youth should complete the form. Answer the questions as well as you can. In many instances, the name of a medicine or vitamin will be shown on the bottle label. Thank you for your cooperation. PLEASE REMEMBER TO **BRING THIS** FORM WITH YOU TO THE EXAM/NAT/ON.

1. During the PAST WEEK has the person named above taken any vitamins or minerals?

1 ☐ YES 2 ☐ NO – *Go to question 2*

If **"YES,"** specify the brand name, manufacturer's name, if known, and the type of each vitamin or mineral.

Example

Brand name/Manufacturer's name	Type of vitamin or mineral
unicap M/Upjohn Co.	multiple vitamins with iron
Zestabs/Sauter Labs	multiple vitamins

	Brand name/Manufacturer's name	Type of vitamin or mineral
1		
2		
3		
4		
5		

2. During the PAST WEEK has the. person named above taken medicines, drugs, or other pills?

1 ☐ YES 2 ☐ – *Go to question3*

If "YES," specify the name of the medicine or drug and the reason you are taking it.

Example

Name	Reason
Hygroton	for high blood pressure
Ovrae	Birth Control Pill

	Name	Reason
1		
2		
3		
4		
5		

3. Relationship of person completing form to the person named above.

1 ☐ Self
2 ☐ Mother
3 ☐ Father
4 ☐ Sister
5 ☐ Brother
6 ☐ Other – *Specify* _____

Behavior Questionnaire, Ages 25-74 Years

ORM HRA-1 I-4
(•12•76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

BEHAVIOR QUESTIONNAIRE (AGES 25–74)

HEALTH AND NUTRITION
EXAMINATION SURVEY II

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Deck No.	b. Age	c. Sex	d. Sample Number
317	- -	☐ Male ☐ Female	(100) V - - - -

INSTRUCTIONS – *FOR EACH OF THE FOLLOWING QUESTIONS, MARK AN (X) IN THE BLOCK FOR THE ONE BEST ANSWER FOR EACH QUESTION.*

1. Do you ever have trouble finding time to get your hair cut or styled?

(101)
1 ☐ Never
2 ☐ Occasionally
3 ☐ Almost always

2. When you are under stress or in a tense situation, does your heart beat –

(102)
1 ☐ **Go faster, harder or both?**
2 ☐ **Go slower or with an irregular "jumping" rhythm?**
3 ☐ **Remain the same?**
4 ☐ Don't know. I have never noticed.

3. Ordinarily, how rapidly do you eat?

(103)
1 ☐ I'm usually the first one finished.
2 ☐ I eat a l i ttle faster than average.
3 ☐ I eat at about the same speed as most people.
4 ☐ I eat more slowly than most people.

4. When you listen to someone talking, and this person takes too long to come to the point, do you feel like hurrying him along?

(104)
1 ☐ Frequently
2 ☐ Occasionally
3 ☐ Almost never

5. How often do you actually "put words in his mouth" in order to speed things up?

(105)
1 ☐ Frequently
2 ☐ Occasionally
3 ☐ Almost never

6. If you tell your spouse or a friend that you will meet them somewhere at a definite time, how often do you arrive late?

(106)
1 ☐ Frequently
2 ☐ Once in a while
3 ☐ Never late

7. Suppose you are to meet someone at a public place (street corner, building lobby, restaurant) and the other person is already 10 minutes late. Wi ll you –

(107)
1 ☐ **Sit and wait?**
2 ☐ **Walk about while waiting?**
3 ☐ **Usuolly carry some reading matter or writing paper so you can get something done while waiting?**

8. When you were younger, did most people consider you to be –

(108)
1 ☐ **Definitely hard-driving and competitive?**
2 ☐ **Probably hard-driving and competitive?**
3 ☐ **Probably more relaxed and easy going?**
4 ☐ **Definitely more relaxed and easy going?**

9. Nowadays how would your spouse (or closest friend) rate you?

(109)
1 ☐ Definitely hard-driving and competitive
2 ☐ Probably hard-driving and competitive
3 ☐ Probably relaxed and easy going
4 ☐ Definite1y relaxed and easy going

10. When you are in the midst of doing a job and someone (not your boss) interrupts you, how do you usually feel inside?	110	1 ☐ I feel O.K. because I work better after an occasional break. 2 ☐ I feel only mildly annoyed. 3 ☐ I really feel irritated because most such interruptions are unnecessary.
11. If repeated interruptions have made you really angry, do you —	111	1 ☐ Tell the next interrupter in a firm way? 2 ☐ Tell the next interrupter in a quiet way? 3 ☐ Lock your door? 4 ☐ Move to a quiet place?
12. When you play games with young children about 10 years old (or when you used to do so when your children were younger), how often did you purposely let them win?	112	1 ☐ Always 2 ☐ Most of the time 3 ☐ Half of the time 4 ☐ Only occasionally 5 ☐ Never
13. When playing on a team or taking part in some group activity —	(113)	1 ☐ I am satisfied with myself only if my skill at that activity is better than most of the others in the group. 2 ☐ I am satisfied with myself if my skill is above average for the group. 3 ☐ My satisfaction does not depend on how well I do, since I take part only for enjoyment.
14. How do you feel about competition on the job or in outside activities?	114	1 ☐ Prefer to avoid it 2 ☐ Accept it because it's a necessary evil 3 ☐ Enjoy it because it's stimulating
15. Does your job "stir you into action?"	115	1 ☐ Less often than most people's jobs 2 ☐ About average 3 ☐ More often than most people's jobs
16. When you have to work against a deadline, is the quality of your work —	116	1 ☐ Better? 2 ☐ Worse? 3 ☐ The same (pressure makes no difference)?
17. Are you content to remain at your present job level for the next five years?	(117)	1 ☐ Yes 2 ☐ No, I want to advance. 3 ☐ Definitely no. I strive to advance and would be dissatisfied if not promoted in that length of time.
18. In the past three years have you ever taken less than your allotted number of vacation days?	(118)	1 ☐ Yes 2 ☐ No 3 ☐ My type of job does not provide regular vacations_
19. How many different job titles have you held in the last 10 years? (Be sure to count all shifts in kind of work and to new employers, as well as all shifts up and down in the firm(s) for which you have worked.)	119	1 ☐ Zero or One 2 ☐ Two 3 ☐ Three 4 ☐ Four 5 ☐ Five or more
20. Do you presently work at a job or business outside your home?	120	1 ☐ Yes — *Skip to Question 22* 2 ☐ No

21. Do you **keep house** or work around **the** hour8 a good **deal** of th8 **time?**	(121) 1 ☐ Yes 2 ☐ No – *Skip to Question 23*

22. In your **job** (or **housework**) –

	Most of the time	Some of the time	Hardly ever or never
a. How much of **the** tim8 do you **spend** sitting **down?**	(122) 2 ☐	1 ☐	0 ☐
b. **How** much of th8 tim8 do you **spend** walking or moving about?	(123) 2 ☐	1 ☐	0 ☐
c. How much of th8 **time** do you have to us8 lots of arm, **leg,** or back **muscles** as in lifting, pulling, carrying, digging, and so on?	(124) 2 ☐	1 ☐	0 ☐

23. **Outside** of your **job** or work around **the** house, how **often** do you –

	Frequently	Sometimes	Hardly ever or never
a. Walk as much as a **mile (5–9** blocks) **a** day in getting to and from work, **stores,** ond so on?	(125) 2 ☐	1 ☐	0 ☐
b. **Take hikes** or walks in good **weather?**	(126) 2 ☐	1 ☐	0 ☐
c. **Take** part in **activities** which **require a** lot of body **movement** or **energy,** like ball **games,** cycling, dancing, and so on?	(127) 2 ☐	1 ☐	0 ☐

24. Do you follow a REGULAR **program** of physical **exercise?**	(128) 1 ☐ Yes 2 ☐ No
25. On th8 **average,** 'about how many hours **per week** do you **spend** in **moderately strenuous** or **strenuous activities requiring at least as** much **effort** as th8 **following examples:** Climbing up or down **stairs,** walking **fast,** using **a lawnmower,** sawing wood, bicycling, dancing, or playing **tennis?**	(130) 0 ☐ Less than an hour ___ ___ hours per week
26. Filled out by –	(129) 1 ☐ Examinee 2 ☐ Interviewer 3 ☐ Both

Notes

Control Record

FORM HRA-12-1
FORMERLY HRA-12-1A
(2-19-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

CONTROL RECORD

HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved: O.M.B. No, 68-R 1502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and wil I not be disclosed or released to others for any purpose.

a. Name (First, middle initial, last)	b. Deck No. 3 0 0	c. Sex ☐ Male ☐ Female
d. Date of birth Month Day Year	e. Age Months Years OR	f. Examination date Month (101) Day Year	g. Temperature (102)

PROCEDURE (1)	AGE GROUP (2)	TIME IN (3)	TIME OUT (4)	STAFF (5)	Procedure or part of overal I procedure not done (Enter reason for noncompletion) (6)
1. Casual specimen	All		(103)		
2. Body measurements	All	(104)	(105)		
3. Physician's examination	All	(106)	(107)		
4. Veni puncture I	All	(108)	(109)		
'5. Nutrition questionnaires	All	(110)	(111)		(112) IN HOME 1 ☐ Yes 2 ☐ No
6. Audiometry (air)	4–19	(113)	(114)		
7. Speech test	4-6	(115)	(116)		
8. Allergy test	6–74	(117)	(118)		
9. Spi rometry	6–24	(119)	(120)		
10. Health History Supplement	12-74	(121)	(122)		
11. Glucose Challenge	20–74		(124)		
12. Venipuncture II	20–74	(125)	(126)		
13. Venipuncture III	20–74	(127)	(128)		
14. ECG	25–74	(129)	(130)		
15. Chest X-rays	25–74	(133)	(134)		(135) PREGNANT 1 ☐ Yes 2 ☐ No
16. Back and Neck X-rays	25–74	(136)	(137)		
17. Behavior questionnaire	25–74	(140)	(141)		
18. Liver Challenge (X-NOG)	35–74		(144)		

TIME IN	TIME OUT	Sample number
		№ 10164 (100)

Body Measurements

FORM HRA-12-7
(FORMERLY HRA-12-7A)
(2-19-76)

Form Approved: O.M. B. No. 68-R 1502

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

BODY MEASUREMENTS

HEALTH AND NUTRITION EXAMINATION SURVEY IX

NOTICE – All information which would permit identification of the individual will be held in strict confidence, wi ll be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Deck No.	b. Examiner No.	c. Recorder No.	d. Age
301	(101)		Months ___ OR Years ___

NOTE – Measurement in cm. unless otherwise specified.
Measure left side also if the last digit of examinee's sample number is 3 or 6.

1. Bitrochanteric breadth	(102) ___.___	
2. El bow breadth	Right side (103) ___.___	Left side (104) ___.___
3. Upper arm girth	Right side (105) ___.___	Left side (106) ___.___
4. Chest circumference – Midpoint		
a. Erect (Ages 2 through 7)	(108) ___.___	
b. Supine (Ages 3 and under)	(109) ___.___	
5. Head circumference (Ages 7 and under)	(110) ___.___	
6. Triceps skinfold (mm.)	Right side (111) ___.___	Left side (112) ___.___
7. Subscapular skinfold (mm.)	Right side (113) ___.___	Left side (114) ___.___
8a. Sitting height (Ages 2 and over)	(115) ___.___	
b. Crown rump (Ages 3 ond under)	(116) ___.___	
9. Is examinee right or left handed?	(117) 1 ☐ Right handed 2 ☐ Left handed 3 ☐ Uses both hands about the same 4 ☐ Not sure	
10. Weight (lbs.)	(118) ___.___	Sample number (100)

11a. Standing height (cm.) (Ages 2 and over) (119) ___.___

b. Standing height (inches) (Ages 2 and over) __/__

c. Recumbent length (cm.) (Ages 3 and under) (120) ___.___

d. Recumbent length (inches) (Ages 3 and under) __/__

12. Cervical Spine (Ages 18 ond over)

	Right	Left
a. Rotation (degrees)	(121) ___	(122) ___
Severity of pain (Mark one box in each column)	(123) ☐ None 1 ☐ Doubtful 2 ☐ Minimal 3 ☐ Moderate 4 ☐ Maximal	(124) ☐ None 1 ☐ Doubtful 2 ☐ Minimal 3 ☐ Moderate 4 ☐ Maximal
b. Lateral bending (degrees)	(125) ___	(126) ___
Severity of pain (Mark one box in each column)	(127) ☐ None 1 ☐ Doubtful 2 ☐ Minimal 3 ☐ Moderate 4 ☐ Maximal	(128) ☐ None 1 ☐ Doubtful 2 ☐ Minimal 3 ☐ Moderate 4 ☐ Maximal

13. Lumbar Spine (Ages 18 and over)
Flexion Cl to Sl

a. Erect (cm.) (129) ___

b. Flexed (cm.) (130) ___

Notes

Sample number

Audiometry (Air), Ages 4-19 Years

FORM HRA-12-10
(2-17-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

AUDIOMETRY (AIR)

(AGES 4-I 9)

HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved
O.M. B. No. 68-RI 502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Deck No.	b. Audio No.	c. Examiner No.	d. Age
306	(101) _ _ _ . _ _	(102) _ _	_ _

START HERE IF SAMPLE NUMBER EVEN

1. AIR CONDUCTION – RIGHT EAR

Retest **R** with masking on L* (a)	Frequency (Hz) (b)	Hearing level (c)
(103)	1000	(104)
(107)	2000	(108)
(111)	4000	(112)
(115)	500	(116)
(119)	1000	(120)

START HERE IF SAMPLE NUMBER ODD

2. AIR CONDUCTION – LEFT EAR

Retest **L** with masking on R* (a)	Frequency (Hz) (b)	Hearing level (c)
(105)	1000	(106)
(109)	2000	(110)
(113)	4000	(114)
(117)	500	(118)
(121)	1000	(122)

3. CONDITION AFFECTING TEST RESULTS

Mark all that apply

(123) *
- 1 ☐ None
- 2 ☐ Cold or sinusitis now
- 3 ☐ Ear discharge
- 4 ☐ Ringing or other noises in ears

(124) *
- 5 ☐ Equipment defect**
- 6 ☐ Cold or sinusitis within one week
- 7 ☐ Earache within week
- 8 ☐ Other – Describe**

*Retest poorer ear with A/C masking on better ear only if differences in A/C-HL between the two ears is 40 dB or more

**Specify frequencies affected and describe

Notes

Sample number (100)

Allergy Testing

FORM HRA-1 2-29
3-22-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

ALLERGY TESTING

HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved: O.M.B. No. 68-R1502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and wil I not be disclosed or released to others for any purpose.

a. Deck No. **309** (101) b. Examiner No. - - c. Sex ☐ Male ☐ Female

NOTE – If examinee has a history of strong positive reactions to allergy tests, aspirin, or other drugs, consult doctor before giving allergy tests.

LINE NO.	Allergen (1)	Reading (2)	Wheal Length (mm) (3)	Wheal Width (mm) (4)	Confluent Yes (5)	Confluent No (6)	Flare Length (mm) (7)	Flare Width (mm) (8)	* Minutes (9)	** Test results (10)
1	House dust	First	(102)	(103)	(104) ☐	2 ☐	(105)	(106)	(107)	(108)
		Second	(109) 0	110 (111)	111 1 ☐	2 ☐	(112)	(113)	(114)	(115)
2	Alternaria	First	(116)	(117) 118	(118) 1 ☐	2 ☐	(119)	(120)	(121)	(122)
		Second	(123) (124)	124 (125)	1 ☐	2 ☐	(126)	(127)	(128)	(129) m
3	Cat	First	(130)	(131) (132)	132 1 ☐	2 ☐	(133)	(134)	(135)	(136)
		Second	(137) (138)	(139)	1 ☐	2 ☐	(140)	(141)	(142) s	(143)
4	Dog	First	(144)	(145) (146)	1 ☐	2	☐	(147) (148)	(149)	(150)
		Second	(151)	(152) m (153)	153 1 ☐	2 ☐	(154)	(155)	(156)	(157)
5	Ragweed	First	(158)	(159) 160	(160) 1 ☐	2 ☐	(161)	(162)	(163)	(164)
		Second	(165) (166)	166 (167)	1 ☐	2 ☐	(168)	(169) e	(170)	(171)
6	Oak	First	(172)	(173) 174	(174) 1 ☐	2 ☐	(175)	(176)	(177)	(178)
		Second	(179) (180)	180 (181)	181 1 ☐	2 ☐	(182)	(183)	(184)	(185)
7	Rye grass	First	(186)	(187) 188	(188) ☐	2 ☐	(189)	(190)	(191)	(192)
		Second	(193) (194)	194 (195)	195 1 ☐	2 ☐	(196)	(197)	(198)	(199)
8	Bermuda grass	First	(200)	201 (201)	(202) 1 ☐	2 ☐	(203)	(204) m	(205)	(206)
		Second	(207) (208)	208 (209)	209 1 ☐	2 ☐	(210)	(211)	(212)	(213) m
9	(diluent Control)	First	(214)	(215) (216)	216 1 ☐	2 ☐	(217)	(218)	(219)	(220) 220
		Second	(221) (222)	222 (223)	1 ☐	2 ☐	(224)	(225) 225	(226)	(227) 227
10	Histamine	First	(228)	(229)	(230) 1 ☐	2 ☐	(231)	(232)	(233)	(234)
		Second	(235) (236)	236 (237)	237 1 ☐	2 ☐	(238)	(239)	(240) v	(241)

d. Was test satisfactory? (242) 242 1 ☐ Yes 2 ☐ No (Give reason) ⟶

*Minutes from administration to reading record only if time differs from 10 minutes for first reading and 20 minutes for second reading.

**Test result Codes and Definitions

10 No reaction
11 Erythema between 5 and 21 mm in diameter
12 Erythema larger than 21 mm in diameter-no wheal
13 Wheal with or without surrounding erythema
14 Wheal with pseudopods and surrounding erythema
15 Test not given. Doctor's orders – cat, dog, or ragweed positive history of skin test
16 Test not given. Doctor's orders – cat, dog, or ragweed hi story of allergy
17 Both 15 and 16
18 Test not given – Doctor's orders (Specify)
19 Test not given – other reason (Specify)
20 Erythema between 1 and 4 mm in diameter

Sample number (100)

Spirometry, Ages 6-24 Years

FORM HRA-12-9
(3-1-76)

Form Approved : O.M.B. No. 68-R 1502

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

SPIROMETRY (AGES 6-24)

HEALTH AND NUTRITION EXAMINATION SURVEY II

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Deck Nc.	b. Age	c. Examiner name	Examiner No.
311	--		(101) 101

d. Room temperature	e. Uncorrected barometric pressure
(102) __ __ °C	(103) __ __ __.__ mm. Hg.

f. SPIROMETER

Was test satisfactory?..... (104) ❑ 1 ❑ 2 ❑

Notes

Sample number
(100)

Liver Function Test, Ages 35-74 Years

FORM HRA-12-31
(3-9-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

LIVER FUNCTION TEST

(AGES 35-74)

HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved
O.M.B. No. 68-RI 502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Deck No.	b. Examiner No.	c. Age
314	(101) __ __	__ __

1. How many hours ago did you have your last meol?

(102) __ __ Hours ago

2. **Do you have an allergy to eggs or egg products?**

(103) 1 ☐ Yes – candy cream

2 ☐ No –

3. Challenge given

(104) 1 ☐

2 ☐ Substitute

4. Time X-NOG or substitute ingested

(105) - - : - - (106) 1 ☐ A.M.
2 ☐ P.M.

5. Proportion of X-NOG drunk

(107) 1 ☐ All
2 ☐ 3/4
3 ☐ 1/2
4 ☐ 1/4 or less

6. Time blood drawn

(108) __ __ : __ __ (109) 1 ☐ A.M.
2 ☐ P.M.

7. Was test satisfactory?

(110) 1 ☐ Yes
2 ☐ No – Give reason _____

Notes

Sample number

(100)

Glucose Challenge, Ages 20-74 Years

FORM HRA-12-32
(3-2-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

GLUCOSE CHALLENGE
(AGES 20–74)
HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved
O.M. B. No. 68-R I 502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or ieleased to others for any prupose.

a. Deck No.	b. Examiner No.	c. Age
315	01	- -

1. Are you currently'taking insulin?	(102) 1 ☐ Yes (DO NOT GIVE GTT) 2 ☐ No (Ask Question 2)
2. Are you currently taking diabetes pills?	(103) 1 ☐ 2 ☐ No (Ask Question 3)
3a. How many hours ago did you have your last meal?	(104) — — Hours ago
b. Have you had anything to eat or drink, except water, since that meal?	(105) 1 ☐ Yes 2 ☐ No
c. If "Yes," what was it?	
d. How many hours ago did you have it?	(106) — — Hours ago
4a. About how many glasses or bottles of beer have you had in the last 24 hours?	(107) 0 ☐ None - - Glasses or bottles
b. About how many glasses of wine have you had in the last 24 hours?	(108) 0 ☐ None — - Glasses
c. About how many drinks of liquor have you had in the last 24 hours?	(109) 0 ☐ None — - Drinks
5a. Time glucose given	(110) — — — — (111) 1 ☐ A.M. 2 ☐ P.M.
b. One hour specimen drawn	(112) — — — — (113) 1 ☐ A.M. 2 ☐ P.M.
c. Two hour specimen drawn	(114) — — — — (115) 1 ☐ A.M. 2 ☐ P.M.
6. Was test satisfactory?	(116) 1 ☐ Yes 2 ☐ No (Give reason) _____

Notes	Sample number
	(200)

Speech Pathology Test, Ages 4-6 Years

FORM HRA-12-4
(3-24-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

SPEECH PATHOLOGY TEST
(AGES 4–6)

HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved
O.M. B. No. 68-R 1502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Deck No.	b. Examiner No.	c. Examiner name	d. Age	e. Sex
308	(101) - -		____	☐ Male /-'J Female

f. NOTE – Hearing aid should be worn during test if examinee normally wears one.

(102) 1 ☐ Hearing aid worn
2 ☐ Does not wear hearing aid

g. SPEECH PATHOLOGY TEST

READ – "(Now we're going to play a game.) I'm going to play some words and sentences on this machine. You say just what the machine says. Let's practice. 'Hello' (Hello.) 'I'm fine, thank you.' (I'm fine, thank you.) 'Is it raining?' (Is it raining?) Good. Let's go on."

Note – Sentences may be repeated once.

1. Let's talk together.
2. I like you.
3. Robert found a shiny penny.
4. He wants to wash himself.
5. Someone burned a hole in the lug.
6. Why didn't they tell another story?
7. She put the cover on the jar very tightly.
8. There's no reason for fighting with him.
9. Is Ralph playing a different game?
10. After Dad fixed my bike I rode around a lot.
11. My aunt who fell couldn't walk.
12. Let him go to the store because we need some milk.
13. Where wi II they sing for the chi ldren?
14. If you eat too much candy, you'll be sick.
15. We thought the baby knew how to say thank you.
16. Joe must have bought three oranges.
17. It's not for me but I would like to look at it.

h. Conditions affecting the test

(103)
1 ☐ None – Test was satisfactory
2 ☐ Does not speak English
3 ☐ Hoarseness or laryngitis due to cold
4 ☐ Strained voice in past few days
5 ☐ Unable to follow directions due to lack of concentration
6 ☐ Equipment failure
7 ☐ Some other problem – Explain _____

Notes

Sample number
(100)

FORM HRA-12-3
(2-27-76)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH RESOURCES ADMINISTRATION
NATIONAL CENTER FOR HEALTH STATISTICS

PHYSICIAN'S EXAMINATION
(AGES 6 MONTHS – 74 YEARS)
HEALTH AND NUTRITION EXAMINATION SURVEY II

Form Approved: O.M.B. No. 68-R 1502

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose.

a. Name (First, middle initial, lost)

b. Deck No. **302**

c. Age: Months | OR | Years

d. Pulse (101)

e. Blood pressure (age 6 years and over)
Systolic (102) - - - Diastolic (103) - - -

f. Cuff Width (104) 1 ☐ Adult 2 ☐ Child

g. Examiner No. (105)

A. HEAD, EYES, EARS, NOSE, AND THROAT: (106) 1 ☐ Findings 2 ☐ No findings

If findings, mark applicable box and continue with I.
If no findings, SKIP to B

		Yes
1. Dry, staring hair	(107)	1 ☐
2. Oyspigmented hair	(108)	1 ☐
3. Easily pluckable hair	(109)	1 ☐
4. Abnormal texture or loss of curl	(110)	1 ☐
5. Circumcorneal injection	(111)	1 ☐
6. Conjunctival injection	(112)	1 ☐
7. Angular blepharitis	(113)	1 ☐
8. Pupils and Iris	(114)	1 ☐
9. Xerosis	(115)	1 ☐
10. Lesions of Cornea (other)	(116)	1 ☐
11. Bitot's spots	(117)	1 ☐
12. Conjugate Gaze	(118)	1 ☐
13. Keratomalacia	(119)	1 ☐
14. Strabismus	(120)	1 ☐
15. Xerophthalmia	(121)	1 ☐
16. Conjunctiva (other)	(122)	1 ☐
17. Lids and Sclera (other)	(123)	1 ☐
18. Angular lesions of lips	(124)	1 ☐
19. Angular scars of lips	(125)	1 ☐
20. Cheilosis	(126)	1 ☐
21. Filiform papillary atrophy of tongue	(127)	1 ☐
22. Fungi form papi l lary hyper-trophy of tongue	(128)	1 ☐
23. Geographic tongue	(129)	1 ☐
24. Fissures of tongue	(130)	1 ☐

A. HEAD, EYES, EARS, NOSE, AND THROAT: Continued

		Yes
25. Serrations or swelling of tongue	(131)	1 ☐
26. Scarlet beefy tongue	(132)	1 ☐
27. Magenta tongue	(133)	1 ☐
28. Bleeding gums	(134)	1 ☐
29. Diffuse marginal inflammation	(135)	1 ☐
30. Swollen red papillae	(136)	1 ☐
31. Recession	(137)	1 ☐
32. Naso-labial seborrhea	(138)	1 ☐
33. Visible enlarged parotids	(139)	1 ☐
34. Bossing of skull	(140)	1 ☐
35. Other – Describe _____	(141)	1 ☐

B. EXTERNAL EAR (Except canal)

		Right		Left
1. No findings – SKIP to c	(142)	1 ☐	(143)	1 ☐
2. Findings – Continue with 3		2 ☐		2 ☐
3. Operative scar	(144)	1 ☐	(145)	1 ☐
4. Other – Describe _____	(146)	1 ☐	(147)	1 ☐

		Yes		Yes
5. Pierced ears	(148)	1 ☐	(149)	1 ☐

Sample number (100)

C. AUDITORY CANAL

	Right	Left
1. No findings – SKIP to D	(150) 1 ☐	(151) 1 ☐
2. Findings – Continue with 3	2 ☐	2 ☐
3. Occluded –		
a. Partially	(152) 1 ☐	(153) 1 ☐
b. Completely	2 ☐	2 ☐
4. Occluded by –		
a. Cerumen	(154) 1 ☐	0155 1 ☐
b. Other – Describe	2 ☐	2 ☐

D. DRUM

	Right	Left
1. No findings – SKIP to E	(156) 1 ☐	(157) 1 ☐
2. Findings – Continue with 4	2 ☐	2 ☐
3. Not visible	3 ☐	3 ☐
4. Dull (Opaque)	(158) 1 ☐	0159 1 ☐
5. Transparent	2 ☐	2 ☐
6. Bulging	(160) 1 ☐	(161) 1 ☐
7. Retracted	2 ☐	2 ☐
8. Calcium plaques	(162) 1 ☐	0163 1 ☐
9. Red	(164) 1 ☐	0165 1 ☐
10. Other discolorations	2 ☐	2 ☐
11. Fluid	(166) 1 ☐	(167) 1 ☐
12. Scars	(168) 1 ☐	(169) 1 ☐
13. Perforated		
a. With discharge	(170) 1 ☐	0171 1 ☐
b. Without discharge	2 ☐	2 ☐
14. Other findings – Describe	(172) 1 ☐	(173) 1 ☐

E. NARES

	Right	Left
1. No findings – SKIP to F	(174) 1 ☐	0175 1 ☐
2. Findings – Continue with 3	2 ☐	2 ☐
3. Obstruction		
a. Acute	(176) 1 ☐	(177) 1 ☐
b. Chronic	2 ☐	2 ☐
4. Other significant findings –		
a. Deviated septum	0178 1 ☐	0179 1 ☐
b. Swollen turbinates	0180 1 ☐	0181 1 ☐
c. Chronic inflammation	(182) 1 ☐	(183) 1 ☐
d. Polyps	(184) 1 ☐	(185) 1 ☐
e. Other – Describe	(186) 1 ☐	(187) 1 ☐

F. NECK

1. No findings – SKIP to G	(188) 1 ☐
2. Findings – Continue with 3	2 ☐
3. Adenopathy	(189) 1 ☐
4. Tracheal deviation	0190 1 ☐
5. Other – Describe	0191 1 ☐

G. THYROID EVALUATION

1. (WHO Classification)	(192) 1 ☐ Group 0 2 ☐ Group I 3 ☐ Group 2 4 ☐ Group 3
2. OTHER THYROID FINDINGS –	(193) 1 ☐ Findings- 2 ☐ No findings – GO to H

	R	L	Both
a. Tenderness	(194) 1 ☐	2 ☐	3 ☐
b. Nodule	(195) 1 ☐	2 ☐	3 ☐
c. Isthmus	(196) 1 ☐		
d. Other – Describe	(197) 1 ☐		

Sample number

H. CHEST EVALUATION –

If findings, mark applicable box and continue with I.
If no findings, SKIP to H6.

(198) 1 ☐ Findings
2 ☐ No findings

Yes

1. Beading of ribs . . . . . (199) 1 ☐
2. Follicular hyperkeratosis of upper back . . . . . (200) 1 ☐
3. Wheezing on auscultation
   a. Diffuse . . . . . (201) 1 ☐
   b. Focal . . . . . (202) 1 ☐
4. Decreased breath sounds (diffuse) . . . . . (203) 1 ☐
5. Masses (Breast) . . . . . (204) 1 ☐ Right
   2 ☐ Left
   3 ☐ Both

6. Auscultation

(205) 1 ☐ No findings –
2 ☐ Findings →

	Dimin. brth. sounds	Absent b.s.	Bronchial b.s.	Rales	Rhonchi	Wheeze
Right chest						
Upper lobe	(206) 1 ☐	2 ☐	(207) 1 ☐	(208) 1 ☐	(209) 1 ☐	(210) 1 ☐
Middle lobe	(211) 1 ☐	2 ☐	(212) 1 ☐	(213) 1 ☐	(214) 1 ☐	(215) 1 ☐
Lower lobe	(216) 1 ☐	2 ☐	(217) 1 ☐	(218) 1 ☐	(219) 1 ☐	(220) 1 ☐
Left chest						
Upper lobe	(221) 1 ☐	2 ☐	(222) 1 ☐	(223) 1 ☐	(224) 1 ☐	(225) 1 ☐
Lower lobe	(226) 1 ☐	2 ☐	(227) 1 ☐	(228) 1 ☐	(229) 1 ☐	(230) 1 ☐

7. Other chest findings

(231) 1 ☐ None 2 ☐ Findings _____

Notes

Sample number

I. HEART

1. P.M.I. (Age 18 and over) . . . . . 232 — 1 ☐ Felt 2 ☐ Not felt

2. Interspace. . . . . 233 — 4 ☐ 5 ☐ 6 ☐ 7 ☐

3. Midclavicular line. . . . . 234 — 1 ☐ At 2 ☐ Inside 3 ☐ Outside

4. Thrills . . . . . 235 — 1 ☐ Absent 2 ☐ Present

a. Systolic. . . . . 236 — 1 ☐ Base 2 ☐ Apex

b. Diastolic. . . . . 237 — 1 ☐ Base 2 ☐ Apex

5. Heart sounds

a. I st heart sound. . . . . 238 — 1 ☐ Normal 2 ☐ Accentuated 3 ☐ Diminished

b. 2nd heart sound. . . . . 239 — 1 ☐ Normal 2 ☐ Accentuated 3 ☐ Diminished

6. Murmurs . . . . . 240 — 1 ☐ None — SKIP to 7

	Systolic murmur(s)	Diastolic murmur(s)
a. Type	241 — 1 ☐ Functional 2 ☐ Organic 9 ☐ Don't know	242 — 1 ☐ Functional 2 ☐ Organic 9 ☐ Don't know

b. Location

	Grade	Grade
(1) Apex..	243 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐	244 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
(2) Midprecordium	245 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐	246 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
(3) Left base	247 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐	248 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐
(4) Right base	249 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐	250 — 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

c. Origin

	Systolic	Diastolic	Both
(1) Mitral.	251 — 1 ☐	2 ☐	3 ☐
(2) Aortic	252 — 1 ☐	2 ☐	3 ☐
(3) Tricuspid	253 — 1 ☐	2 ☐	3 ☐
(4) Pulmonic	254 — 1 ☐	2 ☐	3 ☐
(5) ASD.	255 — 1 ☐	2 ☐	3 ☐
(6) VSD.	256 — 1 ☐	2 ☐	3 ☐
(7) Other.	257 — 1 ☐	2 ☐	3 ☐
(8) Don't know	258 — 9 ☐		

7. Other cardiac or cardiovascular findings . . . . . 259 — 1 ☐ No — SKIP to J 2 ☐ Yes — Continue with 7a

a. Edema.. . . . . 260 — 1 ☐

b. Cyanosis. . . . . 261 — 1 ☐

c. Irregular pulse . . . . . 262 — 1 ☐

d. Other — Describe . . . . . 263 — 1 ☐

e. Neck vein distension . . . . . 264 — 1 ☐

Sample number

FORM HRA-12-3 (2-27-76)

J. PULSE – ARTERIAL EVALUATION (Age 18 and over)

1. Palpation

		Normal	Sclerotic	Tortuous	Sclerotic and Tortuous
a. Right radial	265	1 ☐	2 ☐	3 ☐	4 ☐
b. Right femoral	266	1 ☐	2 ☐	3 ☐	4 ☐
c. Right **dorsalis** pedis	267	1 ☐	2 ☐	3 ☐	4 ☐
d. Left radial	268	1 ☐	2 ☐	3 ☐	4 ☐
e. 'Left femoral	269	1 ☐	2 ☐	3 ☐	4 ☐
f. Left **dorsalis** pedis	270	1 ☐	2 ☐	3 ☐	4 ☐

2. Pulsations

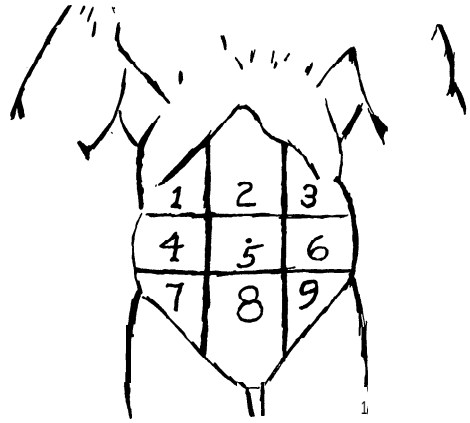
		Normal	Diminished	Bounding	Absent
a. Right radial	271	1 ☐	2 ☐	3 ☐	4 ☐
b. Right femoral	272	1 ☐	2 ☐	3 ☐	4 ☐
c. Right **dorsalis** pedis	273	1 ☐	2 ☐	3 ☐	4 ☐
d. Other – *Describe*	274	1 ☐	2 ☐	3 ☐	4 ☐
e. Left radial	275	1 ☐	2 ☐	3 ☐	4 ☐
f. Left femoral	276	1 ☐	2 ☐	3 ☐	4 ☐
g. Left **dorsalis** pedis	277	1 ☐	2 ☐	3 ☐	4 ☐
h. Other – *Describe*	278	1 ☐	2 ☐	3 ☐	4 ☐

K. ABDOMINAL EVALUATION AND KIDNEY

If findings, mark applicable box *and* continue with I.
If no findings, SKIP to *L*.

279 1 ☐ Findings
2 ☐ No findings

		Yes
1. Hepatomegaly	280	1 ☐
2. Splenomegaly	281	1 ☐
3. Uterine enlargement	282	1 ☐
4. Inguinal hernia	283	1 ☐
5. Femoral hernia	284	1 ☐
6. Umbilical hernia	285	1 ☐
7. Pot belly	286	1 ☐
8. Mass(es)	287	1 ☐
(1) Area(s) – *Enter* number(s)	288	— — —
(2) Other findings – *Describe*	289	1 ☐
3. Surgical scars	290	1 ☐
(1) Area(s) – Enter number(s)	291	— — — —
(2) Other findings – *Describe*	292	1 ☐
10. CVA Tenderness	293	1 ☐



Sample number

L. JOINTS (Age 10 and over)

(294) 1 ☐ No findings – *SKIP to M*
2 ☐ Findings – *Describe and continue with I* _____

Other joints	MANIFESTATIONS																			
	Tender				Swelling				Deformity				Heberden's nodes		Pain on motion				Other	
1. Shoulder	(295) 1 ☐R 3 ☐B 2 ☐L				(296) 1 ☐R 3 ☐B 2 ☐L				(297) 1 ☐R 3 ☐B 2 ☐L						(298) 1 ☐R 3 ☐B 2 ☐L				(299) 1 ☐R 3 ☐B 2 ☐L	
2. Elbow	(300) 1 ☐R 3 ☐B 2 ☐L				(301) 1 ☐R 3 ☐B 2 ☐L				(302) 1 ☐R 3 ☐B 2 ☐L						(303) 1 ☐R 3 ☐B 2 ☐L				(304) 1 ☐R 3 ☐B 2 ☐L	
3. Wrist	(305) 1 ☐R 3 ☐B 2 ☐L				(306) 1 ☐R 3 ☐B 2 ☐L				(307) 1 ☐R 3 ☐B 2 ☐L						(308) 1 ☐R 3 ☐B 2 ☐L				(309) 1 ☐R 3 ☐B 2 ☐L	
	Right		Left		Right		Left		Right		Left				Right		Left		Right		Left	
4. Metacarpo-phalangeal (No. involved)	(310) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(311) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(312) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(313) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(314) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(315) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐				(316) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(317) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(318) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(319) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	
5. Proximal-inter-phalangeal (No. involved)	(320) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(321) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(322) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(323) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(324) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(325) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐				(326) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(327) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(328) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(329) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	
													Right	Left						
6. Distal-inter-phalangeal (No. involved)	(330) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(331) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(332) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(333) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(334) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(335) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(336) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	(337) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	(338) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(339) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(340) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐		(341) 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐	
7. Ankle	(342) 1 ☐R 3 ☐B 2 ☐L				(343) 1 ☐R 3 ☐B 2 ☐L				(344) 1 ☐R 3 ☐B 2 ☐L						(345) 1 ☐R 3 ☐B 2 ☐L				(346) 1 ☐R 3 ☐B 2 ☐L	
8. Feet	(347) 1 ☐R 3 ☐B 2 ☐L				(348) 1 ☐R 3 ☐B 2 ☐L				(349) 1 ☐R 3 ☐B 2 ☐L						(350) 1 ☐R 3 ☐B 2 ☐L				(351) 1 ☐R 3 ☐B 2 ☐L	
9. Knees	(352) 1 ☐R 3 ☐B 2 ☐L				(353) 1 ☐R 3 ☐B 2 ☐L				(354) 1 ☐R 3 ☐B 2 ☐L						(355) 1 ☐R 3 ☐B 2 ☐L				(356) 1 ☐L 3 ☐B 2 ☐L	
10. Hips	(357) 1 ☐R 3 ☐B 2 ☐L				(358) 1 ☐R 3 ☐B 2 ☐L				(359) 1 ☐R 3 ☐B 2 ☐L						(360) 1 ☐R 3 ☐B 2 ☐L				36 1 ☐R 3 ☐B 2 ☐L	

Sample number

M. BACK

(362) 1 ☐ No findings — *SKIP* to *N*
2 ☐ Findings — Continue with *I*

1. Scoliosis . . . . . (363) 1 ☐
2. Kyphosis . . . . . (364) 1 ☐
3. Lordosis. . . . . (365) 1 ☐
4. Tenderness
   a. Sciatic notch . . . . . (366) 1 ☐ R 2 ☐ L 3 ☐ Both
   b. Sacroiliac . . . . . (367) 1 ☐ R 2 ☐ L 3 ☐ Both
   c. Other — Describe . . . . . (368) 1 ☐
5. 'Limitation of motion
   a. Thoracic spine . . . . . (369) 1 ☐
   b. Lumbar spine, right lateral flexion . . . . . (370) 1 ☐
   c. Lumbar spine, left lateral flexion . . . . . (371) 1 ☐
   d. Full extension . . . . . (372) 1 ☐
6. Pain on motion. . . . . (373) 1 ☐ Negative 2 ☐ Positive

	Cervical Severity of pain (Mark one box)	Thoracic	Low back	Diffuse	Uncertain
7. Flexion.	(374) 0 ☐ None 1 ☐ Doubtful 2 ☐ Minimal 3 ☐ Moderate 4 ☐ Maximal	(375) 1 ☐	(376) 1 ☐	(377) 1 ☐	(378) 1 ☐
8. Extension	(379) 0 ☐ None 1 ☐ Doubtful 2 ☐ Minimal 3 ☐ Moderate 4 ☐ Maximal	(380) 1 ☐	(381) 1 ☐	(382) 1 ☐	(383) 1 ☐
9. Right lateral bending.		(384) 1 ☐	(385) 1 ☐	(386) 1 ☐	(387) 1 ☐
10. Left lateral bending		(388) 1 ☐	(389) 1 ☐	(390) 1 ☐	(391) 1 ☐
11. Right rotation		(392) 1 ☐	(393) 1 ☐	(394) 1 ☐	(395) 1 ☐
12. Left rotation		(396) 1 ☐	(397) 1 ☐	(398) 1 ☐	(399) 1 ☐

N. STRAIGHT-LEG-RAISING TEST

1. Right leg . . . . . (400) 1 ☐ Negative 2 ☐ Positive
2. Left leg . . . . . (401) 1 ☐ Negative 2 ☐ Positive
3. Increase —
   a. On ankle (right leg) . . . . . (402) 1 ☐ Yes 2 ☐ No
   b. Dorsiflexion (left leg) . . . . . (403) 1 ☐ Yes 2 ☐ No

O. OTHER SYSTEMS (Reticulo endothelial, G.I., etc.)

(404) 1 ☐ No findings — SK/P to *P*
2 ☐ Findings — Describe

Sample number

FORM HRA-12-3 (2-27-76)

P. MUSCULOSKELETAL EVALUATION –

If findings, mark applicable box and continue with 1. If no findings, SKIP to Q.

		Yes
	405	1 ☐ Findings 2 ☐ No findings
1. Bowed legs	406	1 ☐
2. Knock knees	407	1 ☐
3. Epiphysial enlargement, wrists	408	1 ☐
4. Under age 3 – Abduction of hips (Ortolani's Maneuver)	409	1 ☐
5. Other findings – Describe	410	1 ☐

Q. NEUROLOGICAL EVALUATION

If findings, mark applicable box and continue with 1. If no findings, SKIP to R.

		Yes
	411	1 ☐ Findings 2 ☐ No findings
1. Absent knee jerks	412	1 ☐
2. Absent ankle jerks	413	1 ☐
3. Positive Chvostek sign	414	1 ☐
4. Apathy	415	1 ☐
5. Marked hyperirritability	416	1 ☐
6. Other findings – Describe	417	1 ☐

R. SKIN EVALUATION

If findings, mark applicable box and continue with 1. If no findings, SKIP to S.

		Yes
	418	1 ☐ Findings 2 ☐ No findings
1. Follicular hyperkeratosis, arms	419	1 ☐
2. Hyperpigmentation, hands and face	420	1 ☐
3. Dry or scaling skin	421	1 ☐
4. Perifolliculosis	422	1 ☐
5. Petechiae – Describe	423	1 ☐
6. Mosaic skin	424	1 ☐
7. Pellagrous dermatitis	425	1 ☐
8. Ecchymoses – Describe	426	1 ☐
9. Edema	427	1 ☐
10. Other findings – Describe	428	1 ☐

S. EXAMINER'S SUBJECTIVE IMPRESSION OF NUTRITIONAL STATUS –

1. Normal nutrition	429	1 ☐
2. Abnormal nutrition		2 ☐

T.

1. Obesity	430	1 ☐
2. No obesity		2 ☐

Notes

Sample number

U. BLOOD PRESSURE	Cuff width	Time	Systolic	Diastolic	Examiner No.
1. Recumbent	(431) 1 ☐ Adult	(432) (433) 1 ☐ A.M.	(434) 0	435 0	438
2. Sitting	2 ☐ Child	__:__ 2 ☐ P.M.	(436)	0 437)	

V. SUMMARY OF DIAGNOSTIC IMPRESSIONS

0 439 1 ☐ Normal; no abnormal findings
2 ☐ Abnormal; significant findings noted below

		Severity			Certainty	ICDA code
		Min.	Mod.	Sev.	(0–9)	
a.		0 440 1 ☐	2 ☐	3 ☐ 0	441 0	442 ___.__
b.		(443) 1 ☐	2 ☐	3 ☐ (444) —	444 0	445 ___.__
c.		(446) 1 ☐	2 ☐	3 ☐ (447) —	447 0	448 ___.__
d.		0 449 1 ☐	2 ☐	3 ☐ 0	450 0	451 ___.__
e.		(452) 1 ☐	2 ☐	3 ☐ (453) —	453 0	454 ___.__
f.		(455) 1 ☐	2 ☐	3 ☐ (456) —	456 0	457 ___.__
g.		(458) 1 ☐	2 ☐	3 ☐ 0	459 0	460 ___.__
h.		(461) 1 ☐ 0	2 ☐	3 ☐ 0	462 0	463 ___.__
i.		(464 0 1 ☐	2 ☐	3 ☐ (465) —	465 0	466 ___.__
j.		(467) 1 ☐	2 ☐	3 ☐ (468) —	468 0	469 ___.__
k.		0 470 1 ☐	2 ☐	3 ☐ 0	471 0	472 ___.__
l.		0 473 1 ☐	2 ☐	3 ☐ 0	474 0	475 ___.__
m.		(476) 1 ☐	2 ☐	3 ☐ (477) —	477 0	478 ___.__
n.		(479) 1 ☐	2 ☐	3 ☐ 0	480 0	481 ___.__
o.		(482 0 1 ☐	2 ☐	3 ☐ 0	483 0	484 ___.__

Physician		Sample Number
Name	Number (485) __ __	

FILL ITEMS 1–9 ON PAGE 3 OF THE HOUSEHOLD QUESTIONNAIRE (HES-30) FOR ARMED FORCES HEAD OF FAMILY, LIVING AT HOME, HAVING ONE OR MORE SAMPLE PERSONS IN THE FAMILY. ALSO, BE SURE TO INCLUDE HIS INCOME IN QUESTIONS 20, 21, AND 22 ON PAGE 7 OF THE HES-30.

FORM HES-6
(9-26-77)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

INTERVIEWER INFORMATION CARD BOOKLET

HEALTH EXAMINATION SURVEY

FORM HES-6
(9-26-77)

Explanation of the Health Examination Survey

The basic purpose of the Health Examination Survey is to obtain a complete picture of the health and health needs of the Nation. In such a survey, data are collected by examining and testing a selected sample of persons. Such examinations and tests yield health information unobtainable through interviews or from medical records. The examination can provide information not only about diagnosed conditions but also about undiagnosed conditions of which people are not aware. In addition, information about family nutrition and certain physical and physiological measurements such as height, weight, visual acuity, blood pressure and cholesterol can be obtained. Such data are essential for many purposes; only by knowing what is normal can the abnormal be defined.

Data are compiled for use by Federal, State, and local health departments, medical schools, research organizations, and other groups or individuals.

The Bureau of the Census is conducting the HES Survey for the U.S. Public Health Service because of the urgent need for up-to-date statistics on the health of the people. The survey is authorized by Title 42, United States Code, Section 242k. The information collected is confidential and will be used only to prepare statistical summaries. Participation in this survey is voluntary and there are no penalties for refusing to answer any question. However, your cooperation is extremely important in obtaining much needed information to insure the completeness and accuracy of the data.

CARD HM

WHO IS TO BE INCLUDED AS A HOUSEHOLD MEMBER	Include as member of household	
A. PERSONS STAYING IN SAMPLE UNIT AT TIME OF INTERVIEW		
Any person in unit, including members of family, lodgers, servants, visitors, etc.		
1. Ordinarily stay here all the time (sleep here)	Yes	
2. Here temporarily – no living quarters held for persons elsewhere	Yes	
3. Here temporarily – living quarters held for persons elsewhere		No
In Armed Forces		
1. Stationed in this locality, usually sleep here	Yes	
2. Temporarily here on leave – stationed elsewhere		No
Students – Here attending school	Yes	
B. ABSENT PERSONS WHO USUALLY LIVE HERE		
Inmates of specified institutions – Absent because inmate in a specified institution (see listing in Part C, Table A) regardless of whether or not living quarters held for person here		No
Persons temporarily absent on vacation, in general hospital, etc. (including veterans' facilities that are general hospitals) – Living quarters held here for person	Yes	
Absent in connection with job		
1. Living quarters held here for person – temporarily absent while "on the road" in connection with job (e.g., traveling salesmen, railroad men, bus drivers)	Yes	
2. Living quarters held here and elsewhere for person but comes here infrequently (e.g., construction engineers)		No
3. Living quarters held here at home for unmarried college student working away from home during summer school vacation	Yes	
In Armed Forces – Were members of this household at time of induction but currently stationed elsewhere		No
In school – Away attending school		No
Seamen – Living quarters held here for person	Yes	
C. EXCEPTIONS AND DOUBTFUL CASES		
Persons with two concurrent residences		
1. Regularly sleep greater part of week in another locality		No
2. Regularly sleep greater part of week here	Yes	
Citizens of foreign countries temporarily in the United States		
1. Living on premises of an Embassy, Ministry, Legation, Chancellery, or Consulate		No
2. Not living on premises of an Embassy, Ministry, etc. –		
a. If living and studying here and no usual place of residence elsewhere in the United States	Yes	
b. If living and working here and no usual place of residence elsewhere in the United States	Yes	
c. If merely visiting or traveling in the United States		No
Student nurses living at school		No

EXPLANATION

CARD HM

(Cut along broken lines)

CARD A
1978

AGE VERIFICATION CHART							
Year of birth	Birthday in 1978?			Year of birth	Birthday in 1978?		
	No	AGE	Yes		No	AGE	Yes
889	88		89	934	43		44
890	87		88	935	42		43
891	86		87	936	41		42
892	85		86	937	40		41
893	84		85	938	39		40
894	83		84	939	38		39
895	82		83	940	37		38
896	81		82	941	36		37
897	80		81	942	35		36
898	79		80	943	34		35
899	78		79	944	33		34
900	77		78	945	32		33
901	76		77	946	31		32
902	75		76	947	30		31
903	74		75	948	29		30
904	73		74	949	28		29
905	72		73	950	27		28
906	71		72	951	26		27
907	70		71	952	25		26
908	69		70	953	24		25
1909	68		69	1954	23		24
1910	67		68	1955	22		23
1911	66		67	1956	21		22
1912	65		66	1957	20		21
1913	64		65	1958	19		20
1914	63		64	1959	18		19
1915	62		63	1960	17		18
1916	61		62	1961	16		17
1917	60		61	1962	15		16
1918	59		60	1963	14		15
1919	58		59	1964	13		14
1920	57		58	1965	12		13
1921	56		57	1966	11		12
1922	55		56	1967	10		11
1923	54		55	1968	9		10
1924	53		54	1969	8		9
1925	52		53	1970	7		8
1926	51		52	1971	6		7
1927	50		51	1972	5		6
1928	49		50	1973	4		5
1929	48		49	1974	3		4
1930	47		48	1975	2		3
1931	46		47	1976	1		2
1932	45		46	1977	Und. 1		1
1933	44		45	1978	NA		Und. 1

NOTE: Appropriate age verification charts and calendars were used for each year the survey was in progress.

1978

JANUARY

S	M	T	W	T	F	S
(1)	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	(20)	21	22	23	24	25
26	27	28				

MARCH

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

MAY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	(29)	30	31			

JUNE

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

◯ Holidays

JULY

S	M	T	W	T	F	S
						1
2	3	(4)	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER

S	M	T	W	T	F	S
					1	2
3	(4)	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

OCTOBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	(9)	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	(11)
12	13	14	15	16	17	18
19	20	21	22	(23)	24	25
26	27	28	29	30		

DECEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	(25)	26	27	28	29	30
31						

CARD B — 1978

1978

CALENDAR

CARD C

CHART FOR CONVERTING NUMBER OF CIGARETTES SMOKED PER WEEK TO NUMBER OF CIGARETTES SMOKED PER DAY

Number per week	Number per day
½ pack	1
1 pack	2
1½ packs	4
2 packs	5
2½ packs	7
3 packs	8
3½ packs	10
4 packs	11
4½ packs	12
5 packs	4
1 carton	28

NOTE: If respondent answers in terms of a month, divide the answer by 4 to obtain an estimate for a week and then make the conversion to number per day based on the above chart.

EXAMPLE

Respondent states he smokes a carton a month:

1. 1 carton = 10 packs
2. 10÷4 = 2½ packs per week
3. 2½ packs per week = 7 cigarettes per day

CARD C

CARD O

CARD O

National Origin or Ancestry

01 Countries of Central or South America
02 Chicano
03 Cuban
04 Mexican
05 Mexicano
06 Mexi can -American
07 Puerto Rican
08 Other Spanish

09 Other European, such as German, Irish, English, French
10 Black, Negro, or Afro-American
11 American Indian or Alaskan Native
12 Asian or Pacific Islander, such as Chinese, Japanese, Korean, Philippino, Samoan

OR

Another group not listed — *Specify*

CARD I

Which of these income groups represents your total combined family income for the PAST 12 MONTHS?

Under $1,000 (including loss) . . Group A

$ 1,000 – $ 1,999. . . . . Group B

$ 2,000 – $ 2,999. . . . . Group C

$ 3,000 – $ 3,999. . . . . Group D

$ 4,000 – $ 4,999. . . . . Group E

$ 5,000 – $ 5,999. . . . . Group F

$ 6,000 – $ 6,999. . . . . Group G

$ 7,000 – $ 9,999. . . . . Group H

$10,000 – $14,999. . . . . Group I

$15,000 – $19,999. . . . . Group J

$20,000 – $24,999. . . . . Group K

$25,000 and over. . . . . Group L

TARJETA I – INGRESOS

Haga el favor de mirar a esta tarjeta –

¿Cuál de estos grupos representa el total combinado de los ingresos de su familia durante los últimos 12 meses – esto es, el suyo, más el de su – – etc.? Incluya ingresos de todas las fuentes tales como jornales, salarios, beneficios de seguro social o retiro, ayuda económica por parte de familiares o parientes, alquiler de propiedades, etcétera.

Menos de $1,000 (incluyendo pérdidas) . . Grupo A

$ 1,0[illegible] $ 1,999 . . . . . Grupo B

$ 2,[illegible] $ 2,999 . . . . . Grupo C

$ 3,[illegible] $ 3,999 . . . . . Grupo D

$ 4,[illegible] $ 4,999 . . . . . Grupo E

$ 5,000 – $ 5,999 . . . . . Grupo F

$ 6,000 – $ 6,999 . . . . . Grupo G

$ 7,000 – $ 9,999 . . . . . Grupo H

$10,000 – $14,999 . . . . . Grupo I

$15,000 – $19,999. . . . . Grupo J

$20,000 – $24,999 . . . . . Grupo K

$25,000 o más . . . . . Grupo L

Vital and Health Statistics series descriptions

SERIES 1. Programs and Collection Procedures.-Reports describing the general programs of the National Center for Health Statistics and its offices and divisions and the data collection methods used. They also include definitions and other material necessary for understanding the data.

SERIES 2. Data Evaluation and Methods Research.-Studies of new statistical methodology including experimental tests of new survey methods, studies of vital statistics collection methods, new analytical techniques, objective evaluations of reliability of collected data, and contributions to statistical theory.

SERIES 3. Analytical and Epidemiological Studies.-Reports presenting analytical or interpretive studies based on vital and health statistics, carrying the analysis further than the expository types of reports in the other series.

SERIES 4. Documents and Committee Reports.-Final reports of major committees concerned with vital and health statistics and documents such as recommended model vital registration laws and revised birth and death certificates.

SERIES 10. Data From the National Health Interview Survey.—Statistics on illness, accidental injuries, disability, use of hospital, medical, dental, and other services, and other health-related topics, all based on data collected in the continuing national household interview survey.

SERIES 11, Data From the National Health Examination Survey and the National Health and Nutrition Examination Survey.—Data from direct examination, testing, and measurement of national samples of the civilian noninstitutionalized population provide the basis for (1) estimates of the medically defined prevalence of specific diseases in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics and (2) analysis of relationships among the various measurements without reference to an explicit finite universe of persons.

SERIES 12. Data From the Institutionalized Population Surveys.—Discontinued in 1975. Reports from these surveys are included in Series 13.

SERIES 13. Data on Health Resources Utilization.-Statistics on the utilization of health manpower and facilities providing long-term care, ambulatory care, hospital care, and family planning services.

SERIES 14. Data on Health Resources: Manpower and Facilities.—Statistics on the numbers, geographic distribution, and characteristics of health resources including physicians, dentists, nurses, other health occupations, hospitals, nursing homes, and outpatient facilities.

SERIES 15. Data From Special Surveys.-Statistics on health and health-related topics collected in special surveys that are not a part of the continuing data systems of the National Center for Health Statistics.

SERIES 20. Data on Mortality.—Various statistics on mortality other than as included in regular annual or monthly reports. Special analyses by cause of death, age, and other demographic variables; geographic and time series analyses; and statistics on characteristics of deaths not available from the vital records based on sample surveys of those records.

SERIES 21. Data on Natality, Marriage, and Divorce.-Various statistics on natality, marriage, and divorce other than as included in regular annual or monthly reports. Special analyses by demographic variables; geographic and time series analyses; studies of fertility; and statistics on characteristics of births not available from the vital records based on sample surveys of those records.

SERIES 22. Data From the National Mortality and Natality Surveys.—Discontinued in 1975. Reports from these sample surveys based on vital records are included in Series 20 and 21, respectively .

SERIES 23. Data From the National Survey of Family Growth.—Statistics on fertility, family formation and dissolution, family planning, and related maternal and infant health topics derived from a periodic survey of a nationwide probability sample of ever-married women 15-44 years of age.

For a list of titles of reports published in these series, write to:

Scientific and Technical Information Branch
National Center for Health Statistics
Public Health Service
Hyattsville, Md. 20782

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Statistics
3700 East-West Highway
Hyattsville, Maryland 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF HHS
HHS 396

Third Class

HRST

from the Office of Health Research, Statistics, and Technology
DHHS Publication No. (PHS) **81-1317, Series 1, No. 15**

for a listing of publications in the VITAL AND HEALTH STATISTICS series call 301-436-NCHS